Warfare Planning, Targeting, Surveillance, Communications, and Precision Strike Acronyms and Glossary

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This compilation is being assembled to keep track of terms used in the various warfare planning, surveillance, communication, sensor-to-shooter and precision strike communities. The plethora of acronyms used by DOD can, at times, make discussions with military personnel appear to be in another language. The document is intended to be *dynamic*, since terms appear and fade with program funding within DOD. As such, the date in the upper right-hand corner reflects the state of this document at that date. Definitions are added as time and availability permits. The editor makes no claim to the accuracy of the entries, having derived them from non-sensitive and open literature documents.

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A

A2C2S	Army Airborne Command & Control System
AAA	Anti-Aircraft Artillery. A close-in or point defense weapon used against low- and medium-altitude aircraft.
AAAM	XAIM-152 Advanced Air-to-Air Missile (long range Phoenix replacement; cancelled)
AAAV	Advanced Amphibious Assault Vehicle
AADC	Area Air Defense Coordinator
AAH	Advance Attack Helicopter
AAM	Air-to-Air Missile
AAP	Amphibious Assault Planner
AAR	Air-to-Air Refueling
AARGM	Advanced Anti-Radiation Guided Missile (concept)
AASTI	Advanced Air-to-Surface Technology Integration
AAW	Advanced Attack Weapon (mmw-guided Maverick)
AAW	Anti-Air Warfare. A class of warfare against flying military threats.
AAWS-H/M	Advanced Antitank Weapon System – Heavy/Medium
AAWWS	Airborne Adverse Weather Weapon System
ABC	Air Battle Cell
ABCCC	Airborne Battlefield Command and Control Center. The Air Force Theater-based airborne C^3 platform supporting Strike missions. An EC-130E aircraft, under Theater CINC control, containing ATO and general flight mission plans for airborne units during a military operation.
ABF	Advanced Bomb Family; see JDAM
ABIS	Advanced Battlespace Information System
ABL	Airborne Laser
ABM	Anti-Ballistic Missile
ACA	Airspace Control Authority
ACAAM	Air Courses of Action Assessment Model. A National command and theater level strike mission planning and evaluation system. Designed to permit contingency planners on the Joint Staff and at Theater Commands to analyze prospective courses of action in response to NCA and JCS requirements. Also used at PACOM HQ to create theater-level strike plans.
ACC	Air Combat Command. The Air Force command associated with former tactical (TACC) and strategic (SAC) elements.
ACCM	Advanced Conventional Cruise Missile; see LRCSW
ACCS	Army Command and Control System
ACDBA	Aircraft Data Base Administration.
ACDS	Advanced Combat Direction System
ACE	Allied Command, Europe.
ACE	Aviation Combat Element. USMC element ranging in size from helo squadron to on or more aircraft wings; it may include offensive air support, assault support, anti-air warfare, electronic warfare, and C2 organizations. A component of the MAGTF.
ACI	Advanced Capabilities Initiative/Air-Controlled Intercept
ACLS	Automatic Carrier Landing System
ACM	AGM-129 Advanced Cruise Missile (nuclear)/Air Combat Maneuvering
ACMI	Air Combat Maneuvering Instrumentation
ACMPM	Aircraft Mission Planning Module. That module supporting the generation of specific aircraft missions: routing, terminal area considerations, threat locating, etc.
ACN	Airborne Communications Node
ACO	Airspace Coordination Order
ACOM	Atlantic Command. see LANTCOM.
ACS	Afloat Correlation System. The shipboard system which takes multi-sensor reports and generates correlated target tracks for display of situational awareness.

ACS	Aerial Common Sensor. The Army's planned replacement of Guardrail, Crazy Horse, and ARL.
ACTD	Advanced Concept Technology Demonstration. (See the back of this book for a listing of ACTDs). The ACTD process was initiated in 1994 to permit the early and inexpensive evaluation of mature advanced technologies. The evaluation is accomplished by the warfighter to determine military utility and to develop the concept of operations that will optimize effectiveness. ACTDs are structured and executed so that, when successful, its products can proceed rapidly into formal acquisition. ACTDs allow the warfighter to: Evaluate a technology's military utility before committing to a major acquisition Develop concepts of operation for employing the new technology Retain a low–cost residual operational capability if the commander desires Upon the conclusion of an ACTD, one of the following three choices will be made based on the results of the exercises: Execute the transition of the demonstrated technology directly to the warfighter. This transition approach is particularly appropriate where only small quantities of the new equipment are required Based on lessons learned during the ACTD, enter the formal acquisition process at the appropriate milestone Terminate the efforts or restructure them based on the evolved concept of operations and lessons learned during the ACTD
Action Point	Any point at which a missile action is commanded by the mission plan, e.g., speed change, TOA control, altitude change, special maneuvering, etc.
ACU	Antenna Control Unit
ACUS	Area Common User System. A collection of mobile subscriber equipment (MSE) that provides voice and data comms for Army Corps and their divisions, capable of handling 5 division corps in an area of 37000 sq. km. It is currently fielded, and can interoperate with Combat Net Radio (CNR).
ACV	Air Cushion Vehicle
ACW	Advanced Cluster Weapon (not yet defined)/Anti-Carrier Warfare
ADA	Air Defense Artillery
ADARM	Advanced ARM (not yet defined)
ADARS	Advanced Defensive Avionics Response Strategy. A program to develop algorithms to perform real-time defensive on/off-board data fusion situation assessment and sensor management.
ADBCC	Airborne Dynamic Battle Control Cell
ADC	Analog-to-Digital Converter
ADCAP	Advanced Capability (torpedo)
ADCC	Air Defense Command Center
ADD	Air Defense District
ADDS	Army Data Distribution System. A family of secure, jam resistant, near real time, data communications and position location reporting, navigation, and identification systems. It provides a near real-time data communications capability to echelon above corps as well as below. It includes EPLRS and JTIDS.
ADF	Automatic Direction Finder
ADI	Attitude Direction Indicator
ADL	AN/AWW-13 Advanced Data Link
ADM	Acquisition Decision Memorandum/Advanced Development Model
ADM-...	Air-launched decoy - ...
ADM-141	TALD (unpowered decoy)
ADNS	Automated Data Network System
ADOC	Air Defense Operations Center
ADOCS	Automated Deep Operation Coordination System. A multi-user, distributed, COE compliant system which contains tools and functions to automate the planning and coordination of fire missions, air interdiction missions, situational awareness, airspace control and monitoring, aviation deep strike support, SEAD planning, and external comms. It serves as an electronic

	interface between JMCIS, AFATDS and ATWCS. Additionally, it receives calls for fire (CFF) via JMCIS in Tac Fire format, as well as translates and parses the CFF to the AFATDS and to the ATWCS.
ADPO	Advanced Development Project Office
ADRG	Arc Digital Raster Graphics
ADRI	Arc Digitized Raster Imagery
ADROIT	Advanced Distributed Region-of-Interest Tool
ADS	Airspace Deconfliction System
ADSAF	Automated Data System for the Army in the Field
ADSAM	Air Directed Surface-to-Air Missile
ADSI	Air Defense System Integration
ADSL	Asynchronous Digital Subscriber Line. A modem technology converting existing twisted pair telephone lines into access path for multimedia and high speed data comms. An ADSL circuit connects ADSL modems on each end of a phone line creating 3 channels: a high-speed downstream channel (1.5 - 6.1 Mbps), a medium -speed duplex channel (16 - 64 kbps) and a POTS channel. Each channel can be multiplexed into multiple, lower-rate channels. Advanced products can boost these rates to 9 Mbps downstream and 640 kbps duplex. The system can be made to support ATM. The data rates depend on the length of the copper connection, its wire gauge, presence of bridged taps, and cross-coupled interference. Ideally, a data rate of 1.5 - 2 Mbps is possible for 24 gauge (0.5 mm) wires having a length of 18,000 ft, and 6.1 Mbps for the same gauge wire with a length of 12,000 ft. This means that intermodem wiring must be limited to a couple of miles, but can cover up to 95% of a loop plant, and can be augmented by fiber between nodal sites. An ANSI standard has been approved (T1.413) for this technology.
ADTDL	Army Doctrine and Training Digital Library
ADVCAP	Advanced Capability
AEEC	Airlines Electronic Engineering Committee
AEPDS	Advanced Electronic Processing and Dissemination System
AES	Aerospace and Electronics Systems Society
AEW	Airborne Early Warning. An element of air defense for Naval battle groups.
AFAC	Airborne Forward Air Controller. Manages CAS, controls attacks, and assesses damage.
AFAS	Advanced Field Artillery System
AFATDS	Advanced Field Artillery Tactical Data System. Army system that provides automated fire support of close, rear and deep operations. It is composed of a common suite of hardware and software employed in varying configurations at different operational facilities interconnected by tactical communications. Provides support at any level of command.
AFATL	Air Force Armament Test Laboratory, Eglin AFB
AFB	Air Force Base
AFC	Airborne Fire Control
AFCEA	Armed Forces Communications and Electronics Association. A membership group of industries related to communications, intelligence and security.
AFCRL	Air Force Cambridge Research Laboratory (now Phillips Lab)
AFD	Arm-Fire device
AFDS	Autonomous Freeflight Dispenser System
AFGD	Air Force Geophysics Directorate (was AFCRL)
AFIC	Air Force Intelligence Command
AFISA	Air Force Intelligence Support Agency
AFMSS	Air Force Mission Support System. Follow-on to MSS-2 wing-level planning system. Broadens support to automated mission planning and execution, and permits upgrades to aircraft, weapons and electronic systems. Mission planning systems are to connect with C^3I at unit, wing and theater levels.
AFOSR	Air Force Office of Scientific Research
AFOTEC	Air Force Operational Test & Evaluation Center

AFSCF	Air Force Satellite Control Facility
AFSS	Armor Fire Support System (DARPA)
AFTI	Advanced Fighter Technology Integration. A demonstration program to show how advanced technologies can improve Strike effectiveness. The platform chosen by the Air Force is a dedicated F-16, based out of Edwards AFB.
AFV	Armored Fighting Vehicle
AGARD	Advisory Group on Aerospace Research and Development
AGB	Autonomous Guided Bomb
A-GCCS	Army-Global Command and Control System
AGCW	Autonomous Guidance for Conventional Weapons
Agile	AIM-95 AAM (cancelled)
AGL	Above Ground Level
AGM- ...	Air-to-Ground Missile
AGM- 12	Bullpup missile (obsolete)
AGM- 45	Shrike ARM
AGM- 53	Condor missile (never produced)
AGM- 62	Original designation for Walleye; nomenclature not in wide use
AGM- 65A. B	Maverick, TV-guided (USAF)
AGM- 65C	Maverick, Laser-guided (USAF version; cancelled)
AGM- 65D	Maverick. IR-guided (USAF)
AGM- 65E	Maverick, Laser-guided (USMC CAS weapon)
AGM- 65F	Maverick, IR-guided (USN)
AGM- 65G	Maverick. IR-guided (USAF)
AGM- 69	SRAM (nuclear)
AGM- 78	Standard ARM (out of service)
AGM- 83	Bulldog laser-guided ASM (never produced)
AGM- 84A-D	Harpoon antiship missile, air launch (also RGM-, UGM-84)
AGM- 84E	SLAM; land attack variant of Harpoon
AGM- 84H	SLAM-ER
AGM- 86A-B	ALCM (nuclear)
AGM- 86C	Conventional ALCM (non-nuclear warhead)
AGM- 88	HARM
AGM-109	Air-launched Tomahawk, a.k.a. MRASM (cancelled)
AGM-114	Hellfire helicopter-launched missile
AGM-119	Penguin (Mk 2 Mod 7) air-/helo-launched antiship missile
AGM-122	SideARM short-range ARM
AGM-123	Skipper II (boosted LGB); no longer in service
AGM-129	Advanced Cruise Missile (nuclear)
AGM-130	Powered GBU-15
AGM-131	SRAM II (nuclear)
AGM-136	Tacit Rainbow loitering ARM lethal decoy (cancelled)
AGM-137	Tri-Service Standoff Attack Missile (TSSAM) (cancelled)
AGM-142	Have Nap EO-guided standoff weapon (Israeli design)
AGM-154	Joint Standoff Weapon (JSOW)
AGM-158	Joint Air to Surface Strike Mission/Missile (JASSM)
AGS	Advanced Gun System. (see VGAS) A derivative of the Army 155 mm gun system.
AGW	Autonomous Guided Weapon
AHRS	Attitude and Heading Reference System
AHWS	Advanced Helicopter Weapon System (see also JAWS)
AI	Air Interdiction/Airborne Intercept (radar)/Articulation Index/Artificial Intelligence

AIC	Air Intercept Control/Atlantic Intelligence Command
AIF	Automated Installation Intelligence File
AIFS	Advanced Indirect Fire System
AIG	Air Intelligence Group
AII	Accuracy Improvement Initiative. A GPS-JPO initiative to improve the GPS positioning information by means of more frequent and accurate updating of satellite parameters to the constellation, thereby increasing the basic accuracy of the resultant position fix.
AIM- ...	Air Intercept Missile
AIM- 4	Falcon (obsolete)
AIM- 7	Sparrow
AIM- 9	SideWinder
AIM- 54	Phoenix
AIM- 95	Agile AAM (cancelled)
AIM- 97	Seek Bat variant of Standard ARM
AIM-120	AMRAAM
AIM-132	ASRAAM (U.K.)
AIM-152	AAAM (cancelled)
Aimpoint	A specific location within a target area at which a weapon is aimed to achieve a desired level of damage. Normally, this will be a critical node of the target. There may be multiple aimpoints in any given target area.
Aimpoint Redesignation:	The correction or shift from preplanned target/aimpoint placement on land and ship targets commanded by a forward pass aircraft controller using the AWW-13 datalink. The term may apply to "fine tuning" of the impact point or complete redesignation to a different target/aimpoint within the sensor field of view. The magnitude of the aimpoint redesignation is constrained by the seeker's field of view and the missile's performance capability. Aimpoint redesignation defines the intended impact point only. Aimpoint adjustment cannot be employed for offset trackpoint engagement.
AIR	Air Inflatable Retarder
Air Superiority	That superiority in air power or air control, local or general, held when an air force has greater combat effectiveness than that of an opposing air force, especially if the degree of this superiority permits the conduct of air operations without prohibitive interference by the opposing air force. Air superiority technically covers several degrees of greater combat effectiveness than an enemy possesses, from bare superiority up to in including air supremacy. (AF Dictionary)
Air Supremacy	That degree of air power or air control, local or general, held when an air force can impose its will upon any hostile air force at any time or any place within the realm of control; the highest degree or air superiority. "Air supremacy" implies the existence of a hostile but ineffective air force; if no such force exists, "control of the air" is preferred. (AF Dictionary)
AIR-2	Genie AAM (nuclear)
AIRES	Advanced Imagery Requirements and Exploitation System
Airhawk	Modified Tomahawk, responding to UK requirement for air-launched CASOM
AIS	Air Intelligence Squadron/Autonomous Intelligent Submunition (Damocles)
AIT	Advanced or Atmospheric Interceptor Technology
AIWS	Advanced Interdiction Weapon System; replaced by JSOW
AJ	Anti-Jam
AJFP	Adaptive Joint Forces Package. An integrated force formed to address specific military objectives. Assembled and trained from CONUS forces by USACOM.
ALAM	Advanced Land Attack Missile
ALARM	Alert, Locate, and Report Missiles. A missile-warning satellite system proposed to augment or replace DSP. Superseded by SBIS.
ALB	Air Land Battle
ALCM	AGM-86 Air Launched Cruise Missile

ALE	Automatic Link Establishment
ALERT	Attack Launch Early Reporting to Theater
Almanac data	A set of parameters similar to the more precise ephemeris data, used for approximating the GPS satellite orbits.
ALO	Air Liaison Officer
ALOR	Artillery Launched Observation Round
ALSP	Aggregate Level Simulation Protocol
ALSS	Air-Launched Saturation (or Suppression) System (decoy/ARM concept)
ALVRJ	Air-Launched Low Volume RamJet (technology demo)
AMASS	Advanced Marine Airborne SIGINT System. A mobile tactical SIGINT system which will allow passive detection and targeting up to 200 kilometers beyond the forward line. Consists of airborne receiving system, a communications link, and a ground terminal.
Amphibious Assault:	The principle type of amphibious operation that involves establishing a force on a hostile or potentially hostile shore. (Joint Pub 1-02)
Amphibious Task Force:	The task organization formed for the purpose of conducting an amphibious operation. The amphibious task force always includes Navy forces and a landing force with their organic aviation, and may include MSC-provided ships and Air Force forces when appropriate. (FMFRP 0-14)
AMPAP	Aircraft Mission Planning Application Package
AMRAAM	AIM-120 Advanced Medium Range Air-to-Air Missile
AMTI	Advanced Missile Technology Integration
AMW	Amphibious Warfare
AN	Airborne equipment
AN/AAD-x	IR set
AN/AAQ-14	LANTIRN pod
AN/AAR-50	Navigation FLIR pod for F/A-18 aircraft
AN/AAS-38	NITE Hawk Targeting FLIR pod for F/A-18 aircraft
AN/AAS-x	IR detecting set
AN/AIC-x	Intercom
AN/AJB-x	Bomb computer system
AN/ALE-47	Flare, Chaff, Sonobouy or chemsonde dispenser
AN/ALE-50	Towed decoy dispenser
AN/ALE-55	Fiber Optic Towed Decoy
AN/ALE-x	chaff dispenser
AN/ALQ-x	ecm pod
AN/ALR-x	rwr or ecm systems
AN/APA-x	radar set
AN/APD-x	side looking radar
AN/APG-x	airborne fire control radar
AN/APN-x	altimeter, doppler or NAV radar
AN/APN-x	NAV radar set
AN/APY-6	New designation for advanced multimode radar for CV-based aircraft and the P-3. It is based on the Norden APG-76 radar technology. Radar modes include SAR, MTI, ISAR, and IFSAR. Can geolocate targets to GPS uncertainty levels. X-band operation with a 22"x36" aperture.
AN/APQ-x	(fire control) radar set
AN/APR-x	rwr system
AN/APS-x	airborne radar
AN/APX-x	Iff
AN/ARA-x	direction finder

AN/ARC-210(V)	A multimode integrated communications system to provide multimode voice and data communications in either normal or jam-resistant modes through software reconfiguration. The RT-1556 transceiver is capable of two-way communications links over the 30-400 MHz range within tactical aircraft environments. The VHF/UHF transceiver supports both AM and FM, and UHF satellite communications. The unit is generally comprised of two independent transceivers. It replaces the AN/ARC-182 transceiver on the F/A-18, AV-8B, KC-130, AH-1W, CH-46, SH-60B, V-22 and UH-1N aircraft. The system's architecture and hardware support HAVE QUICK I and II ECCM modes and SINCGARS waveforms. It also supports the NATO HAVE QUICK IIA and SATURN. Future features include 5/25 kHz satcom/DAMA, Link-4, Link-11 and frequency extension to 512 MHz. The producer is Collins Avionics & Comms Div. Wt: 12 lbs, Dim: 5 x 5.6 x 9.8 in.
AN/ARC-x	uhf/vhf/hf/fm radio
AN/ARL-x	hf radio
AN/ARN-x	navigation set/tacan/loran/ILS
AN/ARR-x	uhf radio
AN/AS-35	Pave Penny targeting system
AN/ASA-x	flight control
AN/ASG-x	sight
AN/ASN-x	INS/NAV computer
AN/ASQ-213	HARM Targeting System
AN/ASQ-x	CNI set
AN/AVQ-x	airborne radar
AN/AVS-x	night vision
AN/AWW- 7	Walleye data link pod
AN/AWW- 9	Walleye data link pod
AN/AWW-12	Walleye data link pod
AN/AWW-13	Advanced Data Link (ADL) pod
AN/AXQ-14	USAF Improved Data Link (IDL) pod (old designation)
AN/AXQ-x	control data link
AN/FPS-x	radar set
AN/GPA-x	coder/decoder
AN/GRA-x	antenna group
AN/GRC-x	ssb/HF/UHF radio
AN/GRT-x	VHF/UHF transmitter
AN/PRC-77	A radio in the CNR family. Replaced by SINCGARS.
AN/PRC-x	VHF/UHF/SSB/rescue radio set
AN/TPN-x	approach radar
AN/TPQ-x	radio set
AN/TPS-x	radio set
AN/TPW-x	flight control center
AN/TPX-x	Iff
AN/TRC-x	radio terminal set
AN/TRN-x	ground tacan
AN/TVS-x	night vision
AN/UPA-x	indicator group
AN/UPD-x	side looking radar
AN/UPN-x	transponder
AN/UPX-x	Iff
AN/VRC-12	A small unit radio in the CNR family. Replaced by SINCGARS.
AN/VRC-x	radio set
ANBM	Advanced Navy Battle Management

ANDVT	Advanced Narrowband Digital Voice Terminal. A secure digital voice or data traffic device for use over narrowband voice frequency channels on aircraft, ships, or land vehicles.
ANGLICO	Air and Naval Gunfire Liaison Company
ANIZSW-1	USAF Improved Data Link (IDL) pod
ANN	Artificial Neural Network
ANSI	American National Standards Institute
ANVIS	Aviator's Night Vision Imaging System
AO	Area of Operation
AOA	Angle Of Attack/Analysis of Alternatives
AOB	Air Order Of Battle
AOC	Air Operations Center (AF). Future of CTAPS, as the force-level air engagement center for the Air Force. From where ATOs are generated.
AODA	Attack Operations Decision Aid
AOI	Area of Interest. That portion of the battle space in which a tactical user is interested.
AOP	Air Observation Post
AOR	Amphibious Operating Region/Area of Responsibility
AOSD	APS/RDS Operation Support Division
AP	Armor Piercing
APADS	Advanced Precision Aerial Delivery System
APAM	CBU-59 Anti-Personnel/Anti-Materiel cluster weapon
APC	Armored Personnel Carrier
APD	Avalanche PhotoDiode
A-Pole Maneuver	A maneuver designed to increase the distance between shooter and target at time of weapon intercept. No requirement for active illumination of the target is needed.
API	Armor Piercing/Incendiary (ammunition)/Application Programming Interface
APPEX	Advanced Power Projection Execution (system). see below
APPPES	Advanced Planning and Power Projection Execution System. ATD in SPAWAR to define future C^3I network for Naval Strike.
APPS	Analytical Photogrammatic Positioning System
APS	Advanced Planning System (AF). New force-level planning module to generate ATOs (2500 in 2 hrs, from 72-hr manual system).
APS	Afloat Planning System. Mid-1990s planned upgrade to CVs, where coordinated TLAM, gunfire and TACAIR operations can be developed. Includes a downsized TMPC, a TPSA, DIWS intel image processing and MDS. Operational staffing (9 total): 2 mission planners, O-3/4; 2 imagery analyst intel specialists, E-6/7; 4 data base maintenance technician processors, E-5/6/7; and 1 data systems maintenance technician, E-5. APS is under the BG commander, responding to tasking for TLAM mission changes based on mission planning requests within the BG or from the JFACC. When APS is not planning TLAM missions, it may be used to support TACAIR strike planning, in form of preparing digital target folders and imagery products.
APTAAM	Advanced Processor Technology for Air-to-Air Missiles
APW	Advanced Penetrator Warhead
AQM-...	High Altitude, High Speed Target ...
ARB	Acquisition Review Board
ARC	Air Radio Communications/Equal Arc-Second Raster Chart/Map
ARCP	Aircraft Refueling Control Point
ARCS	Automatic Route Control System
ARDEC	Army Research & Development Engineering Center
ARG	Amphibious Ready Group
ARGUS	Advanced Remote Ground Unattended Sensor. A planned USAF device to detect mobile missile launchers and other ground vehicles. It uses 2 sensors (acoustic and seismic) and a

	database to detect, locate and identify vehicles moving at or behind enemy lines. It can be dropped up to 30kft over enemy areas, and can function for up to 6 months.
ARH	AntiRadiation Homing
Area of Operations:	That portion of an area of war necessary for military operations and for the administration of such operations. (Joint Pub 1-02)
Arid Hunter	A set of experiments conducted by NSWC Fallon NV and NAWCWPNS in FYs 93-94 to measure the improvements in TACAIR TCT acquisition by using imagery and video piped into the cockpit via the AWW-13 weapons data link pod, over just having coordinates and a description of the target. Two flight series (100 sorties in all) measured improvements from near 0% to 75% acquisition of isolated and camouflaged relocatables, and reduced time-over-target for acquisition. This effort led to Project Forward Hunter.
ARINC	Aeronautical Radio, Inc. (establishes avionics standards)
ARITA	Airborne Reconnaissance Information Technical Architecture
ARL	Army Research Laboratory
ARL	Airborne Reconnaissance Low. The Army's DeHavilland-7 aircraft used for recce. Some aircraft also have SIGINT capabilities. There are 9 of these, but are scheduled for retirement.
ARLM	Airborne Reconnaissance Low–Multifunction. A multifunction, day/night aerial system that provides dedicated intelligence target acquisition support, typically to the ground component commander. The system provides radar surveillance and target acquisition with moving target indicator and synthetic aperture radar.
ARM	Anti-Radiation Missile
ARMS	Automated Routing and Maintenance System. A module supporting STRATCOM Bomber routing optimization.
ARO	Army Research Office
ARPA	Advanced Research Projects Agency. See DARPA
ARQ	Automatic Repeat Request
ARRMD	Affordable Rapid Response Missile Demonstrator
ARS	Advanced Rocket System (replacement for 2.75 & Zuni)
ARTCC	Air Route Traffic Control Center (FAA facility)
ARTG	Alternate Reference Target Graphic
ASALM	Advanced Strategic Air-Launched Missile (cancelled)
ASARG	Autonomous Synthetic Aperture Radar Guidance
ASARS	Advanced Synthetic Aperture Radar System. Surveillance radar system used on the U-2R aircraft.
ASAS	All-Source Analysis System. Automated tactical intelligence system for Corps, Division, and Echelon Above Corps. Provides all source intelligence fusion network used to generate understanding of enemy deployments, capabilities, vulnerabilities and potential courses of action. Procurement divided into three blocks.
ASAT	Anti-Satellite
ASC	Aeronautical Systems Center
ASCIET	All Service Combat Identification Evaluation Tests
ASCII	American Standard Code For Information Interchange. Standard 7-bit code for alphanumeric data (text).
ASCM	AntiShip Cruise Missile
ASIC	Application Specific Integrated Circuit
ASIP	Advanced System Improvement Plan. The latest upgrade to SINCGARS, which is a manpack version under 10 lbs., with internet controller hardware & software enhancements.
ASK	Amplitude Shift Keying
ASLCM	Advanced Sea Launched Cruise Missile; see LRCSW
ASM	Air-to-Surface Missile
ASMD	Anti-Ship Missile Defense

ASOC	Air Support Operations Center. USAF unit colocated with Army ground based mobile shelters. Provides control of Army units, manages Tactical Air Control Parties, and coordinates with Army operations.
ASODA	Automated Strike Operation Decision Aids
ASPJ	Airborne Self-Protection Jammer
ASPT	Advanced Strike Planning Tool. Force-level planning system, follow-on to ISPS, but addresses autorouting for air engagements.
ASRAAM	AIM-132 Advanced Short Range Air-to-Air Missile (UK; 192#, 6.5" diam., 114" long)
ASROC	RUR-5 Antisubmarine Rocket
ASTAAM	Advanced Seeker Technology Air-to-Air Missile
ASTAMIDS	Airborne Standoff Minefield Detection System
ASTEC	Advanced Satellite Technology EHF Concept. A cancelled communication satellite demonstration program.
ASTI	Air-to-Surface Technology Integration
ASTOVL	Advanced Short Take-Off/Vertical Landing (aircraft)
ASUW	Anti-Surface Warfare (antiship)
ASW	Anti-Submarine Warfare
ASWOC	ASW Operations Center
ASWS	Advanced Strike Weapon System; see SLAM & TSSAM
ATA	A-12 Advanced Tactical Aircraft (cancelled)
ATACC	Advanced Tactical Air Command Center. see TACC.
ATACCS	Airborne Targeting & Cross-Cueing System
ATACMS	Army Tactical Missile System. Developed by Loral Vought, and in service since 1991, it is a surface-to-surface missile that currently carries unguided area bomblets; two missiles are fired from the Army's MLRS launcher. ATACMS Block II will carry 13 BATs to a range in excess of 140 km, while the Block IIA will carry 6 to more than 300 km.
ATACS	Army Tactical Area Communications System. The existing component of ACIS. Superseded by MSE.
ATARS	Advanced Tactical Aircraft Reconnaissance System. Evolving replacement for TARPS, as an organic recon asset aboard USMC/USN Recce aircraft.
ATB	B-2 Advanced Technology Bomber
ATBM	Anti-Tactical Ballistic Missile
ATC	Air Training Command/ Automatic Target Cueing/AEGIS Training Center
ATCCS	Army Tactical Command and Control System. Part of the ACCS concerned primarily with employment. It may be soon called the Army Battle Command System (ABCS).
ATD	Advanced Technology Demonstration. The 6.3a category effort used to demonstrate emerging technologies or capabilities for military application. Successful transition of ATDs are to engineering development or product improvement insertions to current or new weapons or platform programs.
ATDL	Army Tactical Data Link
ATDMA	Asynchronous Time Division Multiple Access
ATDS	Airborne Tactical Data System
ATE	Automated Test Equipment
ATF	Advanced Technology Fighter (F-22)
ATGW	Anti-Tank Guided Weapon

ATHS	Automatic Target Handoff System. A smart modem/computer family used to communicate and coordinate ground Marine or Army FAC units with both artillery and CAS forces. There are two sets: one is the original ATHS (CP/ASQ-1516) developed by the Army in the early 1980s, and the other is the improved unit (TDM-200) being installed into the Marine Corps AV-8B aircraft. It combines with existing radios to give up to 1.8 kbps data rate, and is compatible with encryption units. The data transmitted into the cockpit ends up on the HUD as a 9-line display— 1. IP for run-in 2. heading/offset of run-in 3. IP-tgt distance 4. target elevation 5. target description 6. tgt location 7. tgt designator type/code/angle 8. location of friendlies (if any nearby) 9. egress instructions/remarks/TOT/TTT
ATIMS	Airborne Tactical Information Management System. A USN technology demonstration program to demonstrate advanced in-flight mission planning and virtual reality displays.
ATLAS	Advanced Technology LADAR System
ATM	Airborne Training Missile
ATM	Asynchronous Transfer Mode. Also called fast packet switching. Network standard in commercial communications. Same as B-ISDN (Broadband ISDN). 53-byte packetized interleaved data; 5-byte header followed by 48-byte payload. This asynchronous time division multiplexing network is layered on SONET. Minimum transfer speed: 51 Mbps.
ATO	Air Tasking Order. A standardized JFACC mission package--a tool for all air strike elements
ATP	Advanced Tactical Processor
ATR	Air Transport Rack/Automatic or Aided Target Recognition
ATRB	Advanced Technology Review Board
ATRWG	ATR Working Group
ATS	Advanced Tactical Support (aircraft)
ATSA	Advanced Tactical Surveillance Aircraft (E-2 replacement; cancelled)
ATTCS	Army Tactical Command and Control System
ATTG	Automated Tactical Targeting Graphic. A targeting package used primarily by the Air Force to support strike missions, including target area photos and related information (of variable quality). Superseded by BTG
ATW	Advanced Tactical Workstation
ATWCS	Advanced Tactical Weapon Control System. A navy fire control and management system capable of coordinating fires from multiple weapons platforms with TLAMs and conventional/advanced naval munitions.
AUPP	Average Unit Production Price
AUR	All-Up Round. A fully assembled Tomahawk Land Attack Missile (TLAM), Tomahawk Multi-Mission Missile (TMMM), or Tomahawk Hard Target Penetrator (THTP), including its rocket motor, guidance system, & warhead, container encased.
AUTOCONET	AUTODIN Conference Network
AUTODIN	Automatic Digital Network. A digital record traffic system operated as part of the DOD Communications System. Traffic is handled through DSN, providing world-wide connectivity to the US unified and specified command and to the services. It will be phased into the DMS by the year 2000.
AUTOVON	Automatic Voice Network
AW	Alpha Whiskey; Anti-Air Warfare Coordinator
AWACS	Airborne Warning and Control System. An E-8 (707 derivative) aircraft equipped with advanced airborne radar for air targeting, situational display and Command & Control support.
AWarE	Advanced Warfare Environment
AWDS	Air Weather Distribution System
AWE	Advanced Warfighting Experiment
AWG-9	Airborne Weapons Group 9. A term used to refer to the advanced air-to-air radar system found in the F-14 aircraft. It can track and illuminate several targets with a singular scan (track-while-scan), and supports the Phoenix air-to-air missile.

AWIS	Army Worldwide Information System. The Army element of WWMCCS. It will most likely be overtaken by STACCS and GCCS.
AWL	Advanced Weapons Laboratory
AWPGM	Adverse Weather Precision Guided Munition
AWW	Aircraft (piloted) Armament (automatic) Flight Control
AWW- xx	see AN/AWW-xx
AX	A-12 follow-on; old term ... see AFX
Az	Azimuth

B

B/N	Bombardier/Navigator
B43	nuclear bomb
B53	nuclear bomb (strategic)
B57	nuclear bomb/depth charge
B61	nuclear bomb
B83	nuclear bomb (strategic)
B90	nuclear depth/strike bomb (replacement for B57)
BAA	Broad Area Announcement
Backbone	In communications, the part of a network that handles the major traffic. GCN 2/6/95.
BADD	Battlefield Awareness Data Dissemination. An ACTD.
BAI	Battlefield Air Interdiction
BAMS	Broad Area Maritime Surveillance
BAN	Battle Area Network
BARCAP	Barrier Airborne Combat Patrol. Air superiority mission to protect SEAD and defense suppression assets. (see TARCAP)
BAT	Brilliant Anti-armor Technology submunition. Developed by Northrum Grumman for the Army, BAT is a self-guided submunition dispensed by the Block II and IIA versions of the Army Tactical Missile System (ATACMS). BAT is an unpowered 3 ft glider with a diameter of 5.5 inches. It uses acoustic and infrared sensors to detect moving tanks as it flies horizontally. After selecting an individual target, it flies into the top of it, detonating a 2-stage shaped-charge warhead.
Battleforce Interoperability:	The ability of two or more units to share information to improve the effectiveness of combined (battleforce) units, over units operating independently.
Battlespace Awareness:	Awareness of the disposition, movement, capabilities and intended employment of friendly and enemy forces in the battlespace; awareness of the location and movement of non-combatants that could complicate employing our forces and weapons; and knowledge of the physical features of the battlespace itself, including terrain, oceanographic and hydrographic features, and weather.
BB	Battleship
BBS	Bulletin Board System (or Service)
BC2A	Bosnian Command & Control Augmentation. The interim version of GBS (Phase I) to support the NATO Bosnian Implementation Force. The broadcast segment of this is JBS.
BCU	Bomb Control Unit (for ABF)
BDA	Battle Damage Assessment. The process involving all levels of warfare analyses in determining the extent of damage due to a military attack.
BDAWG	BDA Working Group
BDI	Bomb/Battle Damage Indication. That part of BDA which addresses the observational evidence of damage due to a military attack. See also Hit Assessment (HA).
BDU- ...	Bomb, Dummy Unit ...

BDU- 8	B43 practice bomb
BDU-20	B57 practice bomb
BDU-33	25-lb practice bomb
BDU-38	B61 practice bomb
BDU-48	10-lb practice bomb (replacement for Mk 106)
BDU-53	B90 practice bomb
BE	Basic Encyclopedia
BER	Bit Error Rate. A measure of the likelihood that transmitted data will be successfully received. It is usually expressed as a ratio or a probability (Sensors Mag. 4/21/01).
BF	Blast-Fragmentation
BFI	BattleField Interdiction
BFO	Blinding Flash of the Obvious (US Army term)
BG	Battle Group. Basic unit of a Naval force. Traditionally composed of one CV, several combatants, and support.
BGC	Battle Group Commander
BGM- ...	Multiple launch platform surface attack missile
BGM- 71	TOW missile
BGM-109	Tomahawk cruise missile family (see also A/R/UGM-109)
BGML	Battle Group Mission Library
BGPHES	Battle Group Passive Horizon Extension System. An S-3A based system, to relay high-bandwidth communications to the CV or Command ship.
BHA	Bomb/Battle Hit Assessment
BIA	Bomb Impact Assessment
BIAS	Bomb Impact Assessment System
Bigeye	BLU-80 binary chemical weapon
BIIR/DSIIR	Basic Imagery Interpretation Report/Direct Support Imagery Interpretation Report
BILOC	Briefing-Induced Loss of Consciousness
Bingo	Pilot defined fuel limit.
BIT	Built-in Test
BITE	Built-In Test Equipment
BITS	Base Information Transfer System. A backbone architecture for integrating basewide communications systems in order to provide voice, data, image message and video communications to users.
BKEP	BLU-106 Boosted Kinetic Energy Penetrator submunition
BLOS	Beyond Line-of-Sight
BLU- ...	Bomb, Live Unit
BLU- 31	800-lb class penetrator bomb
BLU- 52	Chemical bomb
BLU-73	Fuel Air Explosive submunition. It weighs approximately 100 pounds and contain 75 pounds of ethylene oxide with air-burst fuzing set for 30 feet. An aerosol cloud approximately 60 feet in diameter and 8 feet thick is created and ignited by an embedded detonator to produce an explosion. This cluster munition is effective against minefields, armored vehicles, aircraft parked in the open, and bunkers. See CBU-72.
BLU- 80	Bigeye binary chemical weapon
BLU- 82	USAF 15,000 lb slurry explosive weapon
BLU- 95	500-lb class FAE weapon
BLU- 96	2000-lb class FAE weapon
BLU- 97	Combined Effects Bomblet (CEB)
BLU-106	BKEP concrete penetration submunition
BLU-107	Durandal 500-lb penetrator bomb
BLU-108	SFW submunition

BLU-109	2000-lb class penetrator warhead (1-2000); item weighs 1950 lbs total
BLU-110	Mk 83 loaded with PBXN-109 (vs H-6); item weighs 920 lbs total
BLU-111	Mk 82 loaded with PBXN-109 (vs H-6); item weighs 480 lbs total
BLU-113	Special deep penetrator warhead for GBU-28
BLU-114/B	"Soft Bomb". A special-purpose munition for attacking electrical power infrastructure. It reportedly functions by dispensing a number of submunitions which in turn disperse large numbers of chemically treated carbon graphite filaments which short-circuit electrical power distribution equipment such as transformers and switching stations.
BLU-116A/B	Special deep penetrator warhead for the GBU-24 Paveway III LGB
Blue Flag	ACC command post exercise for training battle managers and staffs to plan and execute air warfare. Frequently includes assessments, tests, evaluations, and demonstrations of C3CM/C4I procedures, standards, and equipment..
BM/C3	Battle Management/Command, Control and Communications
BMD	Ballistic Missile Defense
BMDO	Ballistic Missile Defense Organization
BMEWS	Ballistic Missile Early Warning System
BNOC	Beneath the OverCast
BOA	Basic Ordering Agreement (contract)
Boa	Compressed-carriage Sidewinder tech demo
BOC	Bomb-on-Coordinates
BOG	Bomb On Coordinates mode
'BOGIE DOPE'	Request information from ground control (or intercept control) on current target position.
BOSEN	Bus Oriented Signals Exploitation Network
BPI	Boost Phase Intercept
BPR	Business Process Reengineering
BPS	bits per second
BPSK	Binary Phase Shift Keying. A communication technique to modulate an RF carrier wave so that it is transmitted with a certain phase for a 0 and a phase difference of 180 degrees for a 1 (Sensors Mag 4/21/01).
BQM-...	Subsonic Target (recoverable) ...
BQM-145	see MR-UAV
BQM-147	Exdrone UAV. An 80-lb delta wing communications jammer built by BAI Aerosystems. 45 units were deployed during the Gulf War. In 1997-98, 38 were rebuilt to the *Dragon Drone* standard (which includes the addition of a gimbaled EO sensor) and have since deployed twice with Marine Expeditionary Units. Air Force Special Operations Command (Hurlburt Field, FL) is currently using 15 Exdrones as testbeds to explore potential UAV concepts and payloads for special operations forces. The Army Air Maneuver Battle Lab (Ft Rucker, AL) is to also begin experiments with 30 Exdrones within the year. Length: 5.25 ft, span: 8.2 ft, ceiling: 10000 ft, radius: 26 nm, endurance: 2.5 hrs, payload: 15 lbs (OSD UAV Roadmap April 2001).
BQM-147A	Exdrone UAV. Built by BAI Aerosystems.
BRAC	Base Realignment And Closure
BRDF	Bi-directional Reflectance Distribution Function
BRL	Ballistic Research Laboratory
BROACH	Bomb Royal Ordnance Augmented Charge
Broadcasting	A special case of multicasting in which the multicast group includes all stations.
BRU-...	Bomb Rack (or Release) Unit ...
BSU-...	Bomb Stabilization Unit ...
BSU-49	High/low drag stabilizer/retarder (AIR) for Mk 82
BSU-50	High/low drag stabilizer/retarder (AIR) for Mk 84
BSU-85	High/low drag stabilizer/retarder (AIR) for Mk 83
BSU-86	Metal retarder (not Snakeye) for Mk 82

BTG	Basic Targeting Graphic. A more simplified graphic and targeting preparation product, superseding ATTGs. Specific needs other than the general BTG are to be handled by tailored appendices to the BTG.
BTI	Balanced Technology Initiative
Bulldog	AGM-83 Laser-guided version of Bulipup; never produced
Bullpup	AGM-12 command-guided missile (obsolete)
Bushwacker	see HVM
BVR	Beyond Visual Range
BW	Biological Warfare

C

C-ALCM	see AGM-86C
C-Cell	Contingency Cell. An evolving concept to form a strike support team composed of CAW and Intel personnel during periods of crisis response. It would generate target lists, target analyses, and produce a target book for use by the CAW. Service equivalent to the Air Force Rapid Deployment Center.
C-TAPS	Contingency (Consolidated) TACS Automated Planning System. The heart of the AF AOC, and is planned to be the JFACC theater-level planning system to generate ATOs.
C/A code	Coarse/Acquisition GPS code – the standard, civilian GPS code, involving a sequence of 1023 pseudo-random bits at a rate of 1.023 Mbps
C2	Command and Control
C2P	Command and Control Processor. A multiple access device which ensures the needed interoperability among communication systems using different TADILs (TADIL C, TADIL A, and TADIL J).
C3	Command, Control, and Communications
C3F	Commander, Third Fleet
C3I	Command, Control, Communications and Intelligence
C4I	Command, Control, Communications, Computers and Intelligence
C4IFTW	C4I For The Warrior
C5	Command, Control, Communications, Computers and Cunning
CAC2	Combined Arms Command and Control
CACC	Common Aviation Command & Control
CAD	Computer-Aided Design
CADOB	Consolidated Air Defenses Order Of Battle
CAE	Computer-Aided Engineering
CAESAR	Coalition Aerial Surveillance And Reconnaissance
CAEWWS	Carrier Airborne Electronic Warfare Weapon School
CAFMS	Computer-Assisted Force Management System
CAG	Carrier Air Group. Usually refers to the Air Wing Commander of the CVW. Transitioning composition with the removal of the A-6E aircraft, and outyear plans:

		1998	2010	
1 airborne early warning squadron (VAW)	4	--	E-2C	
1 anti-submarine warfare squadron (VS)	8	--	S-3B	
		2	--	ES-3A
		--	TBD	CSA
1 electronic warfare squadron (VAQ)		4	4	EA-6B
1 helicopter ASW squadron (HS)	6	--	SH-60F/HH-60	
		--	8	SH-60R/CH-60
2 fighter squadrons (VF)		14	--	F-14A/D
3 attack squadrons (VFA)		36	--	F/A-18C
		--	50	F/A-18C/E/F, JSF

CAI	Cooperative Airborne Identification
CAIV	Cost As an Independent Variable
CALOC	Contingency and Limited Objective Conflict
CALOW	Contingency and Limited Objective Warfare
CALS	Computer Aided Acquisition & Logistics Support
CAM	Computer-Aided Manufacturing
CAMS	Core Automated Maintenance System
Command and Control Warfare:	A component or area of warfare integrating the use of psychological operations (PSYOP), operations security (OPSEC), military deception, electronic warfare (EW), and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy adversary command and control capabilities, while protecting friendly command and control capabilities against such actions. (Joint Pub 3-13)
Campaign	A connected series of military operations forming a distinct phase of a war to accomplish a long-range major strategic objective. (FMFRP 0-14)
CANX	Cancelled
CAO	Competency Aligned Organization
CAOC	Consolidated Air Operations Center
CAP	Combat Air Patrol
CapTor	CAPtive TORpedo (see Mk 60 mine)
Carrier	The fundamental unmodulated signal transmission
CARS	Contingency Airborne Reconnaissance System. The combination of U2 aircraft sensors, DGS, and MOBSTR in forming a complete responsive reconnaissance system.
CAS	Calibrated Air Speed
CAS	Close Air Support. Air support or cooperation provided by friendly surface forces, consisting of air attacks with guns, bombs, guided airborne missiles or rockets on hostile surface forces, their installations or vehicles *so close to surface operations as to require detailed coordination between air and friendly surface forces* (AF Dictionary); air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces (Roles, Missions, and Functions of the Military Services).
CASOM	U.K. Conventionally Armed StandOff Missile
CASS	Consolidated Automated Support System
Cat	Catapult takeoff from aircraft carrier
CATF	Commander Amphibious Task Force
CATFAE	Catapult-launched FAE (for mine clearing)
CATIS	Computer-Aided Tactical Information System
CAVU	Ceiling and Visibility Unlimited
CAW	Carrier Air Wing
CAX	Combined Arms eXercise
CB	Chemical / Biological
CBD	Commerce Business Daily
CBR	Chemical, Biological & Radiological
CBU-24/B	800 lb. cluster bomb
CBU-52	780 lb. anti-personnel cluster bomb, with 220 BLU-61/62 bomblets
CBU-55	Low-speed FAE weapon
CBU-58	800 lb. cluster bomb, with 650 BLU-63A/B bomblets
CBU-59	APAM cluster weapon
CBU-72	High-speed FAE weapon. See BLU-73.
CBU-78	Gator mine dispenser (cluster weapon)
CBU-87	Combined Effects Munition (i.e., TMD + CEBS)
CBU-88	Smokeye smoke munition

CBU-89	Gator mine dispenser (cluster weapon)
CBU-92	Extended Range Antiarmor Munition (ERAM)
CBU-94	"Blackout Bomb". See BLU-114/B
CBU-97	Sensor Fuzed Weapon. A 1,000-pound class weapon containing sensor-fused submunitions for attacking armor. See SFW.
CBW	Chemical/Biological Weapons or Warfare
CC/ADD	Country Code/ Air Defense District
CCC	CINC Command Complex
CCD	Camouflage, Concealment and Deception/Charge Coupled Device
CCDB	Common Cryptologic Database
CCI	Command Capabilities Issue(s)
CCITT	Consultative Committee for International Telephone and Telegraph
CCM	Conventional Cruise Missile; see LRCSW
CCS	Combat Control System
CCSK	Cyclic Code Shift Keying
CCT	Collaborative Contingency Targeting
CCTV	Closed-Circuit Television
CD	Concept Definition program phase
CD-I	Compact Disk Interactive
CDBA	Common Data Base Access
CDF	Combat Direction Finding
CDL	Common Data Link. An OSD-mandated program managed by the DARO which ensures interoperability of multi-Service and agency data links used for primary intelligence gathering from airborne assets.
CDMA	Code Division Multiple Access. A communication technique allowing multiple devices to broadcast on the same frequency, at the same time, and in the same space by allocating a code sequence rather than the frequency or time slot allocations usually used to differentiate among individual transmitters (Sensors Mag 4/21/01).
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CDROM	Compact Disk - Read Only Memory
CDS	Combat Direction System. Generically stands for several systems. Advanced Combat Direction System (carriers), Aegis Command & Decision (cruisers and some destroyers), and older TDSs (Tactical Data Systems) still found on certain ships. Integrates ownship sensor data and tactical data link information, provides real-time situation monitoring, and performs threat evaluation and weapon assignments.
CDU	Control Display Unit
CE	Circular Error (genenc)
CE	Command Element. A component of a MAGTF.
CEB	BLU-97 Combined Effects Bomblet
CEC	Cooperative Engagement Capability. A high-speed, secure radio network that exchanges and fuses radar information from all elements of a carrier battle group, especially for theater air defense. Airborne CEC augmentation is planned for the E-2C by the turn of the century, and provides extended coverage beyond the horizon. The communications architecture employs a sequenced pairwise two-way radio transmissions, within which medium-bandwidth information bursts are shared, giving all parties situational awareness display and fire control information for weapons such as the Standard Missile 2. Thus, detection by one platform oblique to an incoming cruise missile, say, can be relayed to the identified target platform, and a defensive firepower can be directed to that threat. Uses C-Band communications channels, and normally a 4-foot transceiver antenna.
CECOM	U.S. Army Communications and Electronics Command
CEE	Collaborative Engineering Environment

CEM	CBU-87 Combined Effects Munition (CEBs in TMD dispenser)
CEP	Circular Error Probable. The radius of the smallest circle which contains 50% of all the random samples in a two-dimensional region.
CFF	Call for Fire
CG	Cruiser
CG(N)	Guided Missile Cruiser (Nuclear)
CGI	Common Gateway Interface
CGIC	Civil GPS Information Center
CGN	Cruiser, nuclear powered
CGS	Common Ground Segment
Challenge Athena:	The use of high-bandwidth (T1) satellite communications for support of Naval Command and Control afloat, originally sponsored by OP-094. The first unit used in Ocean Venture '94 series of operational exercises, aboard the Fleet Command ships. The 10-foot dish dome is now operational on all carriers.
Chaparral	MIM-72 SAM (variant of Sidewinder)
CHBDL	Common High Bandwidth Data Link. Surveillance platform data link for assets such as ATARS. 274 Mbps, maximum.
CHENG	Chief Engineer (Navy). The senior technical authority within the (Navy) acquisition structure for the overall architecture, integration, and interoperability of current and future combat, weapons, and C4I systems used by the DON. Equivalent of a PEO.
Chipping	A communication process of high-speed sampling of individual bits in a data stream for transmission over the channel (Sensors Mag 4/21/01).
CHUM	Chart Update Manual
CI	Close-in; very short range standoff regime
CIA	Central Intelligence Agency
CIB	Controlled Image Base. (See CRIB)
CIC	Combat Information Center
CIFS	Close-In Fire Support (i.e., helo-launched CAS)
CIGSS	Common Imagery Ground/Surface System. A system being developed by DARO to migrate all airborne reconnaissance ground and surface systems to a common, interoperable baseline. It will be based on COTS and GOTS products whenever possible, conform to NIMA imagery standards, and be compliant with GCCS and DIICOE, as approved by DISA.
CILOP	Conversion In Lieu Of Procurement
CIMS	Corporate Information Management System
CINC	Commander-In-Chief
CIO	Central Imagery Office. The new replacement for COMIREX in the Intelligence infrastructure. . Now merged into NIMA.
CIP	Common Imagery Processor. The primary sensor processing element of CIGSS. It will accept imagery data from all sensor types (SAR, EO/IR), process it into an exploitable image and output it in a standard format to other CIGSS elements.
CIS	Combat Intelligence Systems. Automates intel functions supporting force and unit level theater air campaign planning and execution.
CISP	Combat Imagery Support Program (SAF)
CIWS	Close-In Weapon System
CJTF	Commander Joint Task Force
CKEM	Compact Kinetic Energy Missile (Army)
CKPT	Checkpoint
Classic Lightning:	A system designed to transition cryptographic key distribution from a paper-based system to an automated electronic system.
CLAWS	Complementary Low-Altitude Weapon System. AMRAAM weapon integrated onto HMMVs.

CLAWS	Common Land Attack Warfare System
CLF	Commander Landing Force
CLO	Counter-Low Observable
CLOAR	Common Low Observable Auto Router. A routing module for LO aircraft on AFMSS.
CLOS	Clear Line of Sight
CM	Configuration Management: The engineering procedure that includes the following: Configuration Identification—Selection of the documents that identify and define the configuration baseline characteristics of an item. Configuration Control—Controlling changes to the configuration and its identification documents. Configuration Status Accounting—Recording and reporting the implementation of changes to the configuration and its identification documents. Configuration Audit—Checking an item for compliance with the configuration identification. (DoD-DIR-5010.19)
CM	Cruise Missiles
CMBRE	Common Munition Built-in-test Reprogrammable Equipment
CMOC	CINC Military Operations Center
CMS	Common Mapping Standard. Program to provide standardized, USAF-validated cartographic database of MC&G, and imagery products used in mission planning systems.
CMSA	Cruise Missiles Support Activity. Tomahawk mission planning center located at or near the JICs (VA and HI).
CMW	Compartmented Mode Workstation
CNA	Center for Naval Analyses
CND	Computer Network Defense
CNI	Communications, Navigation, and Identification. Descriptive term used to define the avionic area that holds the equipment related to comms, nav, and ID functions.
CNR	Chief of Naval Research
Combat Net Radio:	A family of radios that provide for C2 from squad up through corps; mainly voice, with limited data capability, and is replacing current single channel radios. It consists of 5 types of units, including SINCGARS and IHFR.
CNWDI	Critical Nuclear Weapons Design Information
COA	Course of Action
COBRA	Coastal Battlefield Reconnaissance & Analysis/ Collection of Broadcasts from Remote Assets
COC	Combat Operations Center
COD	Carrier Onboard Delivery
Codec	Code/Decode. A device used to compress and decompress information, such as video and audio, or other multi-media components.
COE	Common Operating Environment
COEA	Cost and Operational Effectiveness Analysis
COG	Center of Gravity
COI	Critical Operational Issue
COIL	Chemical Oxygen Iodine Laser. Operating wavelength: 1.3 micrometers
COM	Component Object Model. One computing architecture supporting object oriented systems and networks, promoted by Microsoft (see DCOM).
COMAFFOR	Commander Air Force Forces
COMBO RADIO	Combination Radio. An AN/ARC-210 unit, providing anti-jam (Voice) communications in the UHF and VHF spectrum. Its primary application is toward AAW and CAS operations. It is found on the F/A-18, AF-8B, F-14D, E-2C, EA-6B, AH-1, CH-53, UH-1N, OV-10 and EP-3 aircraft. It is interoperable with Allied HAVEQUICK and SINCGARS. See also AN/ARC-210
COMINT	Communications Intelligence
COMIREX	Committee On Imagery Requirements And Exploitation. A panel which allocated national imagery collection assets to support various government agencies and DOD. Superseded by the CIO.

COMMZ	Communications Zone. Rear part of theater of operations which contains the lines of communications, supply, and evacuation, and other agencies for support and maintenance.
COMOR	Committee On Overhead Reconnaissance
COMPASS	Common Operational Modeling, Planning, and Simulation Strategy. Formerly titled, "Common Operational Mission Planning And Support System". The Navy's collaborative planning system.
COMPSEC	Computer Security
COMSEC	Communications Security
Condor	AGM-53 missile; never produced
Condor	Boeing HALE UAV
CONOPS	Concept of Operations
CONREP	Connected Replenishment at sea
Constant Source	Mobile tactical ELINT off-board tracking system, coupled with Sentinel Byte
Constant Web	Command, Control, and Communications Countermeasures support (C3CM) data base system utilized by Air Intelligence Agency analysts.
Control of the Air:	A kind of control by which a nation is able through its own relative strength to maintain a dominant position with respect to air power and national air capacity, and to exert through this strength desired influence on the actions of another nation or nations either in peace or war; in a restricted sense, the physical control of airspace through the use of military air vehicles. (AF Dictionary)
CONUS	Continental United States
COP	Common Operational Picture
CORBA	Common Object Request Broker Architecture. One computing architecture supporting object oriented systems and networks, promoted by the Object Management Group, an industry consortium (w/o Microsoft).
Corps	The highest operational unit at the tactical level in the Combat Zone.
COTS	Commercial Off-the-Shelf
CP	Control Point or Contact Point or Command Post.
CPAF	Cost Plus Award Fee (contract type)
CPF	CincPacFleet
CPG	Control Processing Group
CPIF	Cost Plus Incentive Fee (contract type)
CPM	Carrier Phase Measurement
CPR	Critical Process Review
CPU	Central Processor Unit
CRC	Cyclic Redundancy Code
Crazy Horse	An Army RC-12G aircraft used for reconnaissance by the NSA for Central American ops.
CRIB	Controlled Rectified Imagery data Base. The unclassified ortho-rectified and geo-coded data base is based on 5-10 meter resolution SPOT and National imagery sources. It will have 23 meter CEP accuracy at 90% confidence, in WGS-84.
CRC	USAF Control and Reporting Center
CRLCMP	Computer Resource Life Cycle Management Plan
CRPA	Controlled Radiation (Reception) Patterned Antenna
CRT	Cathode Ray Tube
CRU-97	SFW anti-armor dispenser weapon
CRWG	Copernicus Requirements Working Group
CS	Constant Source. AF receiver, correlator and display of intelligence information for unit level threat and intelligence exploiters. Equivalent to Navy's TRAP/TRE receiver.
CSA	Common Support Aircraft
CSAR	Combat Search and Rescue
CSE	Common Support Equipment

CSOC	Consolidated Space Operations Center (at Falcon AFB)
CSS	Communications Support System. Part of the Navy Copernicus communications system, taking workstation system data and coordinating the "seamless" transfer across RF, SATCOM or other media. It is designed to enhance battle force communications connectivity, flexibility, and survivability through multimedia access and dynamic link sharing.
CSS	Combat support System
CSSCS	Combat Service Support Control System. Provides automated support of interface between the ATCCS and Standard Army Management Information System, allowing state of readiness to be assessed and the ability to deploy to be evaluated in a near real time mode.
CSSE	Combat Service Support Element. A component of the MAGTF.
CSSOC	Combat Service Support Operations Center
CSU-...	Cluster Bomb Unit
CSW	Conventional Strike Warfare
CTAPS	Contingency TACS (Theater Air Control System) Automated Planning System
CTF	Carrier Task Force/Combined Task Force
CTI	Command Technology Issues
CTP	Coherent Tactical Picture
CTT	Commanders Tactical Terminal (AN/TSC-125(V)1). A Satcom LOS communications terminal providing interface to TRIX, TIBS, TRAP/TADIXS-B, and general purpose UHF communications.
CTT-Hybrids	An airborne receive-only UHF LOS or SATCOM system. Receives CTT or TIBS networks, and TADIXS/TRAP information. It can transmit to CTT & TIBS users.
CUDIXS	Common User Digital Information Exchange System
CV(N)	Aircraft Carrier (nuclear powered). Typical crew size: 5000 (3000 ship's complement and 2000 air wing complement.) Crew requirements: 4000 lbs. of support and 500 cu. ft. per crew member. Currently denoted carriers and air wings:

CV	Name	Comm Date
CV62	U.S.S. Independence	
CV63	U.S.S. Kitty Hawk	61
CV64	U.S.S. Constellation	61
CV67	U.S.S. John F. Kennedy	68
CVN65	U.S.S. Enterprise	61/68
CVN68	U.S.S. Nimitz	75
CVN69	U.S.S. Dwight D. Eisenhower	77
CVN70	U.S.S. Carl Vinson	82
CVN71	U.S.S. Theodore Roosevelt	86
CVN72	U.S.S. Abraham Lincoln	89
CVN73	U.S.S. George Washington	92
CVN74	U.S.S. John Stennis	96
CVN75	U.S.S. Harry S. Truman (tbb)	98
CVN76	USS Ronald Reagan (tbb)	03
CVN77	(tbn)	08
CVX-1	(tbn)	
CVX-2	(tbn)	18

CVBF	Carrier Battle Force
CVBG	Carrier Battle Group
CVIC	CV (aircraft carrier) Intelligence Center
CVW	Carrier Air Wing
CW	Chemical Warfare
CWC	Composite Warfare Commander

CWL	Commandant's Warfighting Laboratory. Established in 10/95, its purpose is to carry out the Sea Dragon process and serve as the catalyst for moving the USMC into the 21st Century. Now called the Marine Corps Warfighting Laboratory (6/97).
CWW	Cruciform Wing Weapon; see GBU-15
CY	Calendar Year (or current year)
CZ	Combat Zone

D

5D	Demand-Driven Direct Digital Dissemination
D&V	see DemVal
D2C3	Decoys, Deception, Camouflage, Concealment and Countermeasures
D3	Decide, Detect, Deliver. USMC proactive approach to mission cycle, as opposed to OODA.
D-30	A 30-month process to integrate, validate and establish configuration management of hardware and software on a battlegroup before it sails.
DA	Direct Attack
DAACM	CBU-98 Direct Airfield Attack Combined Munition
DAB	Defense Acquisition Board
DACT	Digital Automated Communications/Control Terminal (LLDR)
DAFIF	Digital Aeronautical Flight Information File
DAMA	Demand Assigned Multiple Access. A communications technique to maximize single-channel access by multiple users using various formats. Developed to relieve the congestion on the UHF Fleet Satellite by employing time division multiplexed capability. One station acts as the master, which then allocates the channel. Normal rate data is converted to burst-mode transmissions. Normal frame formats are shipboard (1.386 s at up to 32 kbps), and 8.32 s at 2400 bps or 75 bps.
DAMASK	Direct Attack Munition Advanced Seeker Kit. A USN ATD aimed at demonstrating LGM munition accuracy by augmenting the JDAM weapon with a low-cost IIR seeker kit, and using shooter platform or 3rd-party tactical imagery as the basis for seeker aimpoint lock-on and tracking.
DAMS	Dynamic Airspace Management System
DarkStar	The recently cancelled Tier III- medium endurance (10 hrs with 8 hrs on station), medium-high altitude endurance (HAE) (45 kft), moderate carry (1000 lbs.), and moderate range (500 nmi.) autonomous drone. It was being developed by Lockheed Martin/Boeing, and had a stealth design profile (69 ft wingspan, 15 ft length, and a 14.8:1 aspect ratio). Was developed for ARPA and DARO, for USACOM. Its sensors were interchangeable: a Westinghouse TESAR (Tactical, Electronically Scanned SAR) and a Recon Optical television camera (see HAE sensor capabilities). Both had wide and narrow fields of view, and support target geocoding to 20 m CEP. Total aircraft weight without fuel and with radar, 5640 lbs (5440 lbs with TV system), and was powered by a Williams FJ44 turbojet engine (1900 lbf. thrust @ sealevel). Maximum weight is 8600 lbs. This UAV would have used a common ground station built by Teledyne Ryan, and was planned to be controllable from ground stations or by ship through line-of-sight or satellite communications. It needed a 5000 ft runway for take off and landing.
DARO	DOD Airborne Reconnaissance Office. A once existent OSD office set up in Fall 1993 to address the shortfall in airborne tactical reconnaissance assets.
DARPA	Defense Advanced Research Projects Agency. The central research organization for the Department of Defense, is primarily responsible for maintenance of U.S. technological superiority. The DARPA mission is to develop imaginative, innovative and often high risk research ideas that go well beyond more commonplace evolutionary approaches, while offering the potential to dramatically improve defense capabilities, reduce cost, or both. DARPA's scope of activity ranges from technology development and feasibility demonstration through the development and testing of prototype systems. Formerly, and periodically called ARPA.
DAS	Deep Air Support

DASC	Direct Air Support Center. An expandable 8'x8'x20' shelter used to coordinate close air support, assault support, and air recon.
dB	Decibel
DBA	Data Base Administration/Dominant Battlespace Awareness
DBC	Dominant Battlespace Command
DBC	Dynamic Battle Control
DBM	Dynamic Battle Management
DBMS	Data Base Management System
DBS	Direct Broadcast Service. The emerging commercial digital video transmission from satellites over SHF broadcast frequencies (17.3-17.8 GHz uplink, 12.2-12.7 GHz downlink), dividing the spectrum into roughly 32 channels each having 24-27 MHz bw, and transmitting with right/left circular polarization. The pioneer in this area is Hughes, with its 601 communications satellite family.
dBsm	decibel with respect to 1 square meter
dBw	Decibel per Watt
DC&T	Detection, Classification and Targeting
DCA	Defense Communications Agency/Defensive Counter Air operations
DCDB	Digital Cities Data Base
DCGS	Distributed Common Ground Station
DCI	Director of Central Intelligence, nominally the head of the CIA.
DCOM	Distributed Component Object Model. One computing architecture supporting object oriented systems and networks, developed by Microsoft, and intended for Windows operating system. This has a wider distribution than CORBA, since it is part of the Microsoft operating system.
DCP	Distributed Collaborative Planning
DCRS	Digital Camera Receiving Station
DCS	(Data/Defense/Digital) (Communication/Control) System
DCT	Digital Communications Terminal
DD	Destroyer
DD-21	Next generation surface combatant for the Navy. Program managed by PMS-500
DDG	Guided Missile Destroyer
DDN	Defense Data Network. A world-wide digital packet switched network, operated as a long-haul backbone transmission system. It currently provides near-worldwide coverage in support of operational systems, including the WWMCCS and intelligence systems, along with general purpose command-based data networks with long haul requirements. It consists of 4 sub-networks: MILNET (unclassified), DSNET1(secret), DSNET2(top secret), and DSNET3(SCI). The latter 3 are being merged.
DDPO	Defense Dissemination Program Office. Now merged into NIMA.
DDR&E	Deputy Director of Defense Research & Evaluation
DDS	Data Dissemination System
DEAD	Destruction of Enemy Air Defenses
DECM	Deceptive Electronic Countermeasures
Deconfliction	Consideration of TOT, approach headings, potential damage to fix points, and target/target area feature degradation affecting successful munitions delivery.
DED	Digital Elevation Database
Deep Look	An Army effort to demonstrate ISR support to improve realtime common tactical picture for Army deep strike, and SA for artillery. Planned or Summer 1995
DEFPAT	Defensive Pattern (see also BARCAP)
DEMVAL	Demonstration/Validation
DemVal	Demonstration & Validation program phase
DEP	Distributive Engineering Plant

DewDrop	DPPDB Exploitation Workstation Drop Software. A NIMA image exploitation tool hosted on a Sun workstation, to handle DPPDB products. It replaces APPS and PPDB, and is going onto DIWS.
DF	Direction Finding
DFAD	Digital Features Analysis Data
DGG	Defense Global Grid; see *Global Grid*.
DGPS	Differential GPS
DGS	Deployable Ground Station. The element of CARS that exploits and processes, and relays surveillance data from the U2 aircraft sensors. DGS can be located anywhere, theater or CONUS, since MOBSTR can relay data and commands via satcom to the sensors and the U2 pilot.
DGZ	Designated Ground Zero
DHAMA	Dynamic Handoff Assigned Multiple Access
DIA	Defense Intelligence Agency. Now merged into NIMA.
DIDB	Digital Imagery Data Base
DII	Defense Information Infrastructure. The equivalent to NII
DIIR	Defense Imagery Intelligence Report
DIN	Defense Intelligence Network. An Intel news broadcast over secure channels, much akin to CNN, and in response to J-2's complaint about CNN OSCINT.
DIR	Defense Imagery Reports
DIS	Distributed Interactive Simulation
DISA	Defense Information Systems Agency
Disintermediation:	Removal of the middleman in commercial transactions.
DISN	Defense Intelligence Systems Network
DIW	Dead In Water
DIWS(A)	Digital Imagery Workstation Suite (Afloat). The imagery exploitation engine supporting the Navy's APS and JSIPS-N. Located in the CVIC (SCIF).
DL	Data Link
DLL	Dynamic Linked Library
DLMS	Data Link Management System/Digital Land Mass System
DLWS	Data Link Work Station
DMA	Defense Mapping Agency. Now merged into NIMA.
DMMTS	Dual Mode Mobile Targets Seeker
DMOB	Defensive Missile Order of Battle
DMPI	Desired (Mean) Point of Impact. A term used for the aimpoint coordinates conveyed by the ATO. Being superceded by DPI (see below)
DMS	Defense Message System. A flexible X.400 based system that will provide a 'store and forward' service via the use of a "universal mailbox" supporting a full range of information media. Over the next few years, AUTODIN and E-Mail services under this DMS will evolve from SMTP to GOSIP X.400.
DMSO	Defense Modeling and Simulation Office
DMSP	Defense Meteorological Satellite Program
DNA	Defense Nuclear Agency
DOC	Department of Commerce
DOCC	Deep Operations Coordination Center
Doctrine	Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application. (Joint Pub 1-02)
DOD	Department of Defense
DODIIS	DOD Intelligence Information System
DOE	Department of Energy

DOF	Degrees of Freedom (e.g., 6DOF simulation)
DOP	Development Options Paper; old term
DOP	Dilution of Precision. The multiplicative factor that relates ranging error to position error, caused by the geometry between the user and the exploited satellite set.
Doppler Shift	An apparent change in the frequency of a signal caused by relative motion between the transmitter and the receiver.
DOT	Department of Transportation
DOTES	Doctrine, Organization, Training & education, Equipment, Support & facilities
DOTML-P	Doctrine, Organizations, Training, Materiel, Leadership & People. The philosophical elements of JV2010.
DPG	Defense Planning Guide. The blessed warfare scenarios to be used in wargaming and operational evaluation exercises.
DPI	Desired Point of Impact. With the higher accuracy of GPS-guided munitions, it is believed that the statistical implications of "mean" in DMPI are no longer necessary.
DPICM	Dual-Purpose Improved Conventional Munitions
DPM	Data Preparation & Maintenance
DPPDB	Digital Point Positioning Database. A stereo image based product developed by NIMA and introduced in the mid-1990s, consisting of parametric support data, compressed reference graphics, and high resolution national imagery stereo pair sets covering a nominal 60 x 60 NM area. It can be exploited on a stereo equipped digital imagery workstation using Dewdrop (NIMA-provided exploitation software) or RAINDROP and enables rapid readout of coordinates and associated accuracy.
DPR	Differential Pseudo-Range
DPSK	Differential Phase Shift Keying
DPSS	Digital Precision Strike Suite. An algorithm suite, developed by ONR and NAWCWD, that can reside afloat, ashore or airborne, and that can take tactical imagery (organic or 3rd-party), autonomously fuse it with a registered mensurated archive image base in near real-time, and extract from the tactical image precision coordinates of targets or aimpoints of interest. The resultant accuracy of the extracted coordinate information is as good as the archive data. Currently, this archive is PPDB. A laptop computer version has been developed and demonstrated on a CV, and plans are to integrate it into the TAMMAC box for airborne use.
DR	Dead Reckoning (navigation)/Discrepancy Report
Dragon Drone	see BQM-147.
Dragon Drone	Rebuilt *BQM-147 Exdrone* (an 80-lb delta wing communications jammer). In 1997-98, 38 were rebuilt (which includes the addition of a gimbaled EO sensor) and have since deployed twice with Marine Expeditionary Units. Wt: 90 lbs, length: 5.25 ft, span: 82 ft, ceiling: 10000 ft, radius: 26 nm, endurance: 2.5 hrs, payload: 15 lbs (OSD UAV Roadmap April 2001).
Dragon Eye	A mini-UAV (2.4 foot wingspan and 4 lbs weight) developed as one potential answer to the Navy's Over-The-Hill Reconnaissance Initiative and the Marines' Interim Small Unit Remote Scouting System (I-SURSS) requirement. Its design is still evolving; the first prototype flew in May 2000. Each of the three Marine Expeditionary Forces will evaluate ten *Dragon Eyes* (30 total) during 2002. Wt: 4 lbs, length: 2.4 ft, span: 2.4 ft, ceiling: 1000 ft, radius: 6 nm, endurance: 0.5 hr, payload: 1 lb (OSD UAV Roadmap April 2001).
DRC	Dissemination Research Channel
DRMS	Distance Root Mean Square
2DRMS	Twice Distance RMS. In GPS, it means twice the rms of the horizontal errors. This differs from the NATO GPS definition, which means the 2-dimensional rms, or 1/2 the usual measure.
DRSP	Defense Reconnaissance Support Program
DSARC	Defense Systems Acquisition Review Council
DSB	Defense Science Board
DSCC	Defensive Systems Capabilities And Characteristics

DSCN/SOFNET	Distributed Secure Communications Network/Special Operations Forces Network. Provides secure data network in garrison or remote field locations. SOFNET will provide the SOF community with a secure wide area network for voice, video, and data.
DSCS	Defense Satellite Communication System. Communications on SHF (7/8 GHz) band, for world-wide military C2, crisis management, intel and surveillance info dissemination, early warning detection data relay, and diplomatic traffic. DSCS III are now operational (4 geo-synchronous), giving coverage to 72° N/S latitude. Controlled by USAF.
DSMAC	Digital Scene Matching Area Correlator. A subsystem utilized by pre-Block IV TLAM conventional missiles for terminal guidance: DSMAC Scene—The physical arrangement of objects and material on the ground; DSMAC Image—A picture of the DSMAC scene obtained under certain illumination; DSMAC Map—specifically processed DSMAC imagery forming a single binary reference map, one stored in the missile and compared to the image returned by the missile's electro-optical sensor in order to obtain an accurate terminal navigational update.
DSN	Defense Switched Network. The primary DOD telecommunications network that evolved from the AUTOVON system. It supports both clear and secure (including STU-III) projects of the Secure Voice System.
DSNET 1,2,3	Defense Secure Network 1, 2, 3
DSP	Defense Support Program. A family of satellites used to monitor the earth for early-warning of ballistic missile attack against the U.S. The heart of the system is a set of synchronously orbiting satellites distributed over the earth. The sensors are scanned IR arrays, and currently can only detect/track very hot sources as they emerge from the lower atmosphere.
DSRP	Defense Space Reconnaissance Program
DSS	Data Server System/Data Storage Set/Dismounted Soldier System
DST	Destructor (generic; land/sea mines); see Mk 36, 40, 41
DSU	Data Storage Unit
DSU-...	Detecting Device Unit ...
DSUR	Data Storage Unit Receptacle
DSWA	Defense Special Weapons Agency
DT	Development Test(ing)
DT&E	Development Test & Evaluation
DTAP	Defense Technology Area Plan. A DDR&E mandated systems based structure to document the focus, content and principal objectives of the Services science and technology efforts. This plan plus the Defense Basic Research Plan and the Defense Technology Objectives, provide a cross-cutting perspective on Service and Defense Agency technology development showing how they contribute to achieving the Chairman of the Joint Chiefs of Staff's *Joint Vision 2010*. It reviews the programs in ten Defense Technology Areas—Air Platforms, Chemical/Biological Defense and Nuclear, Information Systems and Technology, Ground Vehicles and Watercraft, Materials and Processes, Biomedical, Sensors and Electronics, Space Platforms, Human Systems and Weapons.
DTC	Design-to Cost/Desktop Tactical Computer
DTD	Data Transport Device
DTDMA	Distributed Time Division Multiple Access
DTED	Digital Terrain Elevation Data. A description of the land mass in terms of terrain elevations of points recorded in digital form.
DTF	Digital Targeting Folder
DTM	Digital Terrain Matrix. A matrix of terrain elevation data, specifically one produced by a DIWS, which may be used as a TERCOM matrix, a terrain profile, or in place of DTED data when DTED data are not available. It is a generic DIWS-product term, for the characteristics of the matrix are varied to satisfy a specific mission planning requirement.
DTQ	Dynamic Target Queue
DTRA	Defense Threat Reduction Agency
Durandal	BLU-107 penetrator bomb (French design & mfr.)
DUSD/AT	Deputy UnderSecretary of Defense/Acquisition & Technology
DWMT	Discreet Wavelet Multitone

DWTS	Digital Wideband Transmission System. A means to relay large scale information between the flagship and other ships using a 512 Kbps LOS communications system.
DZ	Drop Zone

E

E&MD	Engineering & Manufacturing Development program phase (replaces FSD)
E-SLATS	Executive Strike Leader Attack Training Syllabus (archaic). Curriculum offered at the Naval Strike & Air Warfare Center, Fallon NAS, NV addressing integrated air strike, tailored for executive officers and middle- to senior-level managers. A shortened version of SLATS training (see SWES).
E3	Electromagnetic Environmental Effects
EAF	Expeditionary Airfield
Eagle Vision	A C-130 deployable Radarsat/Landsat/SPOT imagery downlink that processes the imagery it receives into DMA standard formats. It is currently in operation at Ramstein AB, Germany. See National Eagle.
EAS	Equivalent Airspeed (approximates Indicated Airspeed)
EBO	Effects-Based Operations
EC	Electronic Combat
ECAMS	Enhanced Comprehensive Asset Management System
ECC	Error Correction Codes
ECCM	Electronic Counter-Countermeasures
ECM	Electronic Combat Module/Electronic Countermeasures
ECMO	Electronics Countermeasures Officer
ECOC	Enhanced Combat Operations Center
ECP	Engineering Change Proposal
EDGE	Exploitation of Differential GPS for Guidance Enhancement
Edge Path Router:	Converts Ethernet packets into ATM cells, then transmitted by ATM switch. GCN 2/6/95.
EDM	Engineering Development Model
EEI	Essential Elements of Information. Specific questions about activities and objects which must be answered to perform target area planning and weaponeering.
EEPROM	Electrically Erasable Programmable Read Only Memory
EFP	Explosively Formed Penetrator
EGI	Embedded GPS/INS
EHF	Extra-High Frequency (30-300 GHz)
EHF LOS SATCOM:	A ship-to-ship/shore relay link within the spot pattern of a comms satellite. Enables 40 Mbps comms, and the 20-40 GHz operation allows VTC, Data, POTS comms up to 15 nmi range.
EIC	Engagement Integration Center
EIRP	Effective Isotropic Radiated Power
EISS	EUCOM Intelligence Support System
ELB	Extension of the Littoral Battlespace. An ACTD conducted by ONR to develop a faster and more comprehensive command, control and decision making for naval operations in coastal areas.
ELF	Extra-Low Frequency (0-3 kHz)
ELINT	Electronic Intelligence
ELO	Extremely Low Observable (see also LO, VLO)
ELRF	Eye-safe Laser Range Finder
ELV	Expendable Launch Vehicle
EMC	Electromagnetic Compatibility

EMCON	Emission Control
EMD	Engineering and Manufacturing Development
EME	Electromagnetic Effects, or Environment
EMI	Electro-Magnetic Interference
EMP	Electromagnetic Pulse
Employment	The use of resources to accomplish the goal.
EMV	Electromagnetic Vulnerability
EO	Electro-Optics
EO/IR	Electro-optical/Infrared
EOB	Electronic Order of Battle
EOCM	Electro-Optical Countermeasures
EOD	Explosive Ordnance Disposal
EOSAT	Earth Observation Satellite (Co.) Owned by Space Imaging.
EOTDA	Electro-Optical Tactical Decision Aids
EP-3E	Surveillance aircraft whose primary mission is monitoring hostile ships. Can support other tasking on non-interfering basis. Basic processing on groundstation site.
Ephemeris	Data describing the time, position, attitude, and velocity of a camera or other type of sensor platform. Also accurate position predictions for a satellite transmitted by the GPS satellite to the user in the data message
EPLRS	Enhanced Position Location and Reporting System. Provides secure jam-resistant near real-time data communications support for ATCCS. It is a TDMA system using frequency hopping spread spectrum waveform in UHF. Additionally provides position location and reporting to the user and their headquarters (if equipped).
EPPIC	Enhanced Precise Positioning Integrated Capability
ER Maverick	Extended Range Maverick concept
ER Walleye	Extended Range Walleye (includes data link)
ERAM	CBU-92 Extended Range Antiarmor Munition
ERAM	ECCM Requirements and Assessment Manual
ERASE	Electromagnetic Radiation Source Elimination
ERDL	Extended Range, Data Link (upgraded Walleye)
ERGM	Extended Range Guided Munitions
ERP	Equivalent Radiated Power
ERP	Enterprise Resource Planning. A packaged business software system that lets a company automate and integrate its business processes, share common data and practices across the enterprise, produce and access information in a realtime environment, and provide consistent information for timely decision-making and performance measurement. An evolving business tool that is being considered for Naval acquisition programs.
ERU-...	Ejector Rack Unit ...
ESA	Electronically Scanned Array/European Space Agency
ESAD	Electronic Safe-Arm Device
ESAI	Expanded Situation Awareness Insertion. A USAF technology demonstration project to develop the capability to provide timely, accurate and relevant critical mission updates for multiple aircraft missions, including: defensive SA and response.
ESC	Executive Steering Committee
ESG	Expeditionary Sensor Grid
ESM	Electronic Signals Management/Electronic Support (or Surveillance) Measures
ESSM	Evolved Sea Sparrow Missile
ESTOL	Extremely Short Take-Off and Landing
ETA	Estimated Time of Arrival
ETALS	Enhanced Targeting Acquisition and Location System

ETEPP	Electronic Tomahawk Employment Planning Package. Computerized TEPP data base that replaced the paper TEPP product. Stored on Bernoulli disk for transport to TLAM launchers and CVs.
Ethernet	Network protocol with throughput capability of 10 Mbps. GCN 2/6/95.
ETRAC	Enhanced Tactical Radar Correlator
EUCOM	U.S. European Command
EW	Early Warning (radar)/Electronic Warfare
EWCM	Electronic Warfare Coordination Module
EWIR	Electronic Warfare Intelligence Report
EWPE	Electronic Warfare Pre-Processing Element. A COTS based processor that was used in the TENCAP Talon Lance effort to process large amounts of off-board data. Tied to ATIMS demonstrations.
EX 62	Sea mine (Mk 82 warhead)
EX 63	Sea mine (Mk 83 warhead)
EX 64	Sea mine (Mk 84 warhead)
EX 65	Quickstrike sea mine
Excalibur	Improved version of Tomahawk; see also LRCSW (cancelled)
EXCOMM	External Communications

F

F2T2EA	Find, Fix, Track, Target, Engage, Assess. See PF2T2EA.
FAA	Federal Aviation Administration
FAAD	Forward Area Air Defense
FAADC3I	Integrates, processes and distributes aerial target information gathered from ground based and other sensors, IFF, Positive Hostile ID, and NCTR devices. It will be interoperable with joint and allied High-to-Medium Altitude Air Defense C2 Systems.
FAARP	Forward Area Aerial Refueling Point
FAAT	First Article Acceptance Test
FAATD	Fighter Attack Airborne Targeting Demonstration
FAC	Forward Air Controller/Fast Attack Craft
FAD	Forward Air Defense/Fleet Advanced Demonstration
FAE	Fuel-Air Explosive. See BLU-73.
FAF	Fast Access Format. Basic unit of DDS, 1k x 1k x 11 b
FAMMO	Full ammo
FAR	Federal Acquisition Regulations
FARRP	Forward Area Rearming & Refueling Point
FASM	Forward Air Support Munition
FASTT	Fleet All-Source Tactical Terminal
FBE(x)	Fleet Battlelab Experiment (Alpha, Bravo, Charley, etc.) A set of exercises (two per year) conducted using operational command ships such as the USS Coronado as a Fleet Battle Laboratory, and jointly supported by the numbered Fleet and the MBC to show readiness and emerging capabilities in support of USN and Joint Doctrine. The objective of the experiments is to shorten the cycle time between conceptualization of a new capability and providing it to the Fleets and/or Marine Corps. The FBE plans are to be developed by the Maritime Battle Center in conjunction with inputs from the numbered Fleets. FBEs Alpha and Bravo were conducted in the Spring and Fall of '97, and Charley and Delta are planned for '98.
FC	Fire Control
FCA	Functional Configuration Audit
FCC	Federal Communication Commission/Fleet Command Center
FCS	Fire Control System

FDC	Fire Direction Center
FDDI	Fiber-Distributed Data Interface. A token passing network using optical fiber cabling. GCN 2/6/95.
FDDS	Flag Data Display System
FDE	Forward Dissemination Element
FDMA	Frequency Division Multiple Access. A communications technique allocating channels in a particular space by assigning a specific frequency to each transmitter so that they can all transmit at the same time (Sensors Mag 4/21/01).
FEBA	Forward Edge of the Battle Area (generic; see also FLOT)
FEC	Forward Error Correction. A communication technique whereby additional information is transmitted with the signal so that bits that are received in error can be corrected without requiring a retransmission (Sensors Mag 4/21/01).
FED	Full Scale Development program phase; replaced by E&MD Full Scale Engineering Development program phase; replaced by FSD
FEWS	Follow-on Early Warning System. A proposed follow-on to the DSP family of missile-launch monitoring satellites. The development was recently cancelled (11/93).
FEZ	Fighter Engagement Zone
FF	Frigate
FFAR	Folding-Fin Aircraft Rocket
FFARP	Forward Arming And Refueling Point
FFCC	Force Fires Coordination Center
FFG	Guided Missile Frigate
FFP	Firm Fixed Price (contract type)
FFSC	Forward-Fired Shaped Charge
FGCC	Federal Geodetic Control Committee
FIA	Future Imagery Architecture
FIC	Fleet Intelligence Center
FICEURLANT	Fleet Intelligence Center Europe & Atlantic
FICPAC	Fleet Intelligence Center Pacific
FIIU	Force Imagery Interpretation Unit
FIM-...	Shoulder-Fired SAM
FIM-92	Stinger shoulder-fired surface-to-air missile
FIPS	Federal Information Processing Standards
Fire	1. The discharge of a gun, launching of a missile, or the like. 2. The projectiles or missiles fired. 3. To discharge a weapon. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
Fire Control	1. Control over the direction, volume, and time of fire of guns or launchers by the use of certain electrical, optical, or mechanical systems, devices, or aids; a fire-control system. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973); 2. The control of all operations in connection with the application of fire on a target. (JCS Pub 1-02)
Fire Control System:	1. A group of interrelated fire control equipments and/or instruments designed for use with a weapon or group of weapons. (JCS Pub 1-02). 2. The equipment required and used to direct air guns or controlled missiles at a particular target. Fire-control equipment includes all instruments used in calculating and adjusting the proper elevation and deflection of guns and missiles in flight. Included are such items as radars, telescopes, range finders, predictors, directors, other computers, power plants, and communication-control systems connecting these elements. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
Fireye	Mk 77 (or Mk 122) napalm bomb
Fire Scout	The Navy's VTUAV currently in EMD. Fire Scout can remain on station for at least 3 hours at 110 nm with a payload of 200 lbs. Its Modular Mission Payload (MMP) consists of a gimbaled EO/IR sensor with an integral laser designator/rangefinder. MMP data is relayed to its ground control station and to remote data terminals in real time via a Ku-band LOS data

	link, with a UHF backup for control. The Navy selected the Fire Scout in February 2000 to fill a need for a UAV that could operate from all air-capable ships. Fire Scout will also fill a requirement for the Marines, who require a UAV to support Marine Expeditionary Units that can operate from amphibious assault ships (LHA/LHD/LPDs). Together, the Navy and Marine Corps plan to acquire twenty-three systems of three aircraft apiece with IOCs in FY07 (Navy) and FY03 (Marine Corps). Additionally, the Coast Guard is also considering Fire Scout for its proposed Deep Water recapitalization program. Wt: 2550 lbs, length: 22.9 ft, rotor span: 27.5 ft, radius: 110 nm (OSD UAV Roadmap April 2001).
FISINT	Foreign Instrumentation Signals Intelligence
FIST	Fire Support Team
FIST	Fleet Imagery Support Terminal. A means to provide world-wide transmission of imagery between USN forces ashore and afloat using military satellite communications. Hard copy is digitized at the originating site, transmitted via satellite, and recorded at the receiving site. The terminal can enlarge, annotate, and enhance imagery for further analysis. Image size is limited to roughly 2 k x 2 k pixels.
FIUL	Fleet Issue Unit Load
Flag Ship	That ship containing the Naval Component Commander, if afloat.
FLEX	Force Level Execution Subsystem (AF)
FLIP	Flight Information Publication
FLIR	Forward Looking Infra-Red. An imaging infrared sensor used for aircraft navigation and targeting. Frame rates are such that the display mimics video to the human
FLOT	Forward Line of Own Troops (generic: see also FEBA)
FLTSATCOM	Fleet Satellite Communication System. Operates in UHF: 23 channels in the 244-400 MHz range; 9 25 kHz channels for Navy relay; 12 5 kHz channels for AFSATCOM; 1 500 kHz channel for NCA; 1 25 kHz (SHF up, UHF down) for fleet broadcast. The system is going to UHF/EHF bands, with 512 kbps and T1 channels.
FME	Foreign Materiel Exploitation
FMF	Fleet Marine Force
FMOCC	Fleet Mobile Operations Command Center
FMS	Foreign Military Sales
FMU-...	Fuze Munitions Unit ...
FNC	Future Naval Capabilities. A new paradigm for S&T transition beginning in POM-02, via developments and demonstrations of enabling capabilities from Navy 6.2 and 6.3 program elements that are tied to Navy acquisition planned transitions. The structure of the management is through and industrial model of Integrated Product Teams, consisting of representatives from OPNAV requirements and resource code (N-8x), Systems Command or other acquisition agency (e.g., PEO), CNR resource code (OP-911), and ONR. There are currently 12 FNCs, starting with the POM-02 (See Descriptions in Other Bits of Military Trivia Section, to follow at the back of this document): -Autonomous Operations -Capable Manpower -Electric Ships and Combat Vehicles -Knowledge Superiority and Assurance -Littoral ASW -Littoral Combat and Power Projection -Missile Defense -Organic Mine Countermeasures -Platform Protection -Time Critical Strike -Total Ownership Cost Reduction -Warfighter Protection -FOC (Full Operational Capability)
FOB	Friendly Order of Battle

FOC	Full Operational Capability
FOD	Foreign Object Damage
FOFA	Follow-On Force Attack
FOFAC	Forward Observer/Forward Air Controller
FOG	Fiber Optic Gyro, or Guided
FOG-M	Fiber Optic Guided Missile
FOG-S	Fiber Optic Guided Skipper (technology demonstrator)
FOL	Forward Operating Location
FOM	Figure of Merit
FOPEN	Foliage Penetration
FOR	Field of Regard
FORCEnet	A concept for the future Navy, being explored by the SSG and NWDC. The SSG XXI has been chartered by CNO to accelerate FORCEnet transition for the nearer term (FYDP), as opposed to the general futuristic time frame that is normally associated with SSG activities. More specifically, FORCEnet is defined as the architecture and building blocks of sensors, networks, decision aids, weapons, warriors, and supporting systems integrated into a highly adaptive, human-centric, comprehensive system that operates from seabed to space, from sea to land. By exploiting existing and emerging technologies, FORCEnet enables dispersed human decision-makers to leverage military capabilities to achieve dominance across the entire mission landscape with joint, allied, and coalition partners.
Forward Hunter	A follow-on to the Arid Hunter experiments, where the concept of deploying an imagery exploitation cell on a carrier/LHA with communications gear (JTIDS, AWW-13, Satcom) in order to pipe target imagery into the cockpits of operational Strike aircraft. Supporting experiments at Fallon NAS conducted to show efficacy of a "virtual FAC" and other experimental CONOPS.
Forward Operation:	The operations conducted to project a positive American image, build foundations for viable coalitions, enhance diplomatic contacts, reassure friends, and demonstrate US power and resolve.
Forward Pass	An operational concept where control is passed to a third party, such as an aircraft, which then communicates directly with a weapon like Tomahawk, that has been launched by a ship or submarine.
Forward Presence:	The deployed naval forces who operate overseas on a rotational basis in order to achieve national political and security objectives and/or the specific political-military objectives of the unified theater CINCs. Forward deployed naval forces routinely operate in international waters free of political constraints, entering foreign waters or operating ashore to carry out specific tasks or achieve specific objectives. Forward deployed naval forces may be augmented by surge forces to enhance forward presence in crisis response situations.
FoS	Family of Systems
FOSIC	Fleet Ocean Surveillance Information Center
FOSIF	Fleet Ocean Surveillance Information Facility
FOTC	Fleet Over-The-Horizon Targeting Console
FOUO	For Official Use Only (security term)
FOV	Field Of View
'Fox - n'	Fire missile, where n denotes type: 1–Sparrow; 2–Sidewinder; 3–Phoenix
FPA	Focal Plane Array
FPCON	Based on a recommendation of the USS Cole Commission, the military will replace the word "THREATCON" with a new term: "FPCON," which means Force Protection Condition. The change is being made to eliminate confusion with the term "Threat Level," which is used to quantify the terrorist level of threat on a country-by-country basis. Threat Level terms are classified as low, moderate, significant, and high. FPCON levels will be: Normal, Alpha, Bravo, Charlie, and Delta, the same as the old THEATCON levels, and will mean the same thing as before.

FPGA	Field Programmable Gate Array
F-Pole Maneuver	A maneuver designed to increase distance between shooter and target at time of missile intercept with out loosing target illumination.
FQM-151	Pointer UAV. Approximately 50 hand-launched, battery powered FQM-151/Pointers have been acquired by the Marines and the Army since 1989 and were employed in the Gulf War. Most recently, Special Operations Command Europe (SOCEUR) employed one system (3 aircraft) in Europe, and the Army acquired six systems for use at its Military Operations in Urban Terrain (MOUT) facility at Ft Benning, GA. Pointers have served as testbeds for numerous miniaturized sensors (e.g., uncooled IR cameras and chemical agent detectors) and have performed demonstrations with the Drug Enforcement Agency, National Guard, and special operations forces. Wt: 10 lbs, length: 6 ft, span: 9 ft, ceiling: 1000 ft, radius: 3 nm, endurance: 1 hr, payload: 2 lbs (OSD UAV Roadmap April 2001).
Frag	Fragmentary Order. An abbreviated form of an operation order, usually issued on a day-to-day basis that eliminates the need for restating information contained in a basic operation order. It may be issued in sections. (JCS Pub 1)
Frame Relay	Signaling and data transfer mechanism between intelligent endpoints and an intelligent communications network. GCN 2/6/95.
FRD	Formerly Restricted Data (security term)
FREQ	Frequency
FRP	Full Rate Production (program phase)
FRPA	Fixed Radiation Pattern Antenna
FSB	Fleet Broadcast Subsystem
FSCC	Fire Support Coordination Center
FSCL	Fire Support Coordination Line. A line established by the appropriate ground commander to insure coordination of fire not under his control but which may affect current tactical operations. The FSCL is used to coordinate fires of air, ground or sea weapons systems using any type of ammunition against surface targets. It should follow well defined terrain features, and must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the FSCL, without prior coordination with the ground force commander, provided the attack will not produce adverse surface effects on, or to the rear of, the line. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
FSD	Full-Scale Development
FSED	Full-Scale Engineering Development
FSK	Frequency Shift Keying
FTI	Fast Tactical Imagery. Means for F-14 to transmit/receive image data.
FTP	File Transfer Protocol
FTS2000	Federal Telecommunications System 2000. A GSA managed digital telecommunications system using leased channels for a government-wide network interoperable with DSN. It will provide switched voice, data video transmission, packet-switched data, up to T1 rates.
Fuzzball	Term used to describe the more constant radar cross-sectional component of a given target as a function of aspect angle.
FWE	Foreign Weapons Evaluation
FY	Fiscal Year
FYDP	Five Year Defense Program

G

G/A	Ground-to-Air
GACIAC	Guidance and Control Information Analysis Center
'Gadget On/Off'	Repeater or jammer on/off.
GAM-83	USAF designation for Bulipup
GAMS	GPS-Aided Munitions

GASM	Generic Air-to-Surface Missile
Gator	Land mine dispenser weapon (CBU-78)
GATS/GAM	GPS-Aided Targeting System/ GPS-Aided Munition. GAM was developed by Northrup Grumman for the B-2 bomber for its 2000 lb bombs, giving it a launch and leave capability until JDAM becomes available to bombers. The GATS determines a target's coordinates by combining SAR images of the designated aimpoint with GPS information, then passes the target data to the GAM, which is released automatically. The B-2 will carry 16 GAMs, all of which can be loaded with different aimpoint information and dropped during a single pass. Tests indicate less than 20 error when GAM was dropped from a B-2 at more than 40000 ft altitude. Now called GBU-37.
GBDL	Ground-Based Data Link
GBS	Global Broadcast Service. Based on Hughes DirectTV concept, a proposed usage of military and commercial DBS satellite channels for high/medium-bandwidth comms to battle forces for situational awareness and imagery communications. Phase I (-FY98) utilizes leased SATCOM lines over CONUS (Ku-band) and the Bosnian Theater region (see BC2A). Phase II will establish interim operational capability using the geosynchronous UFO satellites 8, 9 & 10, starting with PACOM coverage, and spanning the globe equatorially to ±65° in latitude. Each GBS transponder package has 2 30 GHz uplink antennas and 3 20.2-21.2 GHz downlink spot beams, for a max bandwidth of 96 Mbps. Two of the spot beams provide 500 nmi nadir footprints and the 3rd provides a 2000 nmi nadir footprint. Beam movement and extent is from earth limb to earth limb in 3 minutes. UFO #8 is in orbit, and #10 will be up before 2000. Phase III will commence past 2006, and will give full worldwide coverage and over 150 Mbps bandwidth service.
GBU- ...	Guided Bomb Unit
GBU-8	TV-guided glide bomb, a.k.a. HOBOS
GBU-10	Mk84 LGB
GBU-12	Mk82 LGB
GBU-15	Modular guided glide bomb family
GBU-16	Mk 83 LGB
GBU-20	Planar wing variant of GBU-l 5 (cancelled)
GBU-22	Low Level LGB (LLLGB), Mk 82 variant
GBU-24	Low Level LGB (LLLGB), Mk 84 or BLU-109 variant
GBU-27	2000-lb class LGB (BLU-109) configured for F-117A
GBU-28	4701-lb class very deep penetrator LGB (for F-111)
GBU-29	JDAM-1, built by Martin Marietta (may be either Mk 84 or BLU-109 warhead)
GBU-30	JDAM-1, built by Martin Marietta (Mk 83 warhead)
GBU-31	JDAM-1, built by McDonnell Douglas (may be either Mk 84 or BLU-109 warhead)
GBU-32	JDAM-1, built by McDonnell Douglas (Mk 83 warhead)
GBU-36	The Mk-84 version of GAMS
GBU-37	see GATS/GAM. It replaces the BLU-113, the 4500 lb. Desert Storm bunker buster warhead with a GPS guidance kit and a 650 lb. Penetrating warhead.
GCAM	General Combat Analysis Model
GCCS(-M)	Global Command and Control System. Follow-on U.S. world-wide C2 network, to replace JWICS. JMCIS is going to transition to this also, hence the –M, or Maritime.
GCE	Ground Combat Element. Ranges in size from an infantry battalion to one or more divisions. May include artillery, tank, etc. orgs. A component of a MAGTF.
GCE	Ground Control Element
GCI	Ground Control Intercept
GCSS	Global Command Support System
GDE	No real meaning of this former General Dynamics Electronics Division. Now part of the Carlisle Group, continuing to support products for mission planning and intelligence exploitation, such as Tomahawk's DIWS.
GDIP	General Defense Intelligence Programs

GDOP	Geometric Dilution of Precision (GPS term)
Genie	AIR-2 AAM (nuclear)
GENSER	General Security Regulations
GEO	Geostationary Earth Orbit. The circular orbit located 22300 mi altitude at the earth's equatorial plane, where the period of a satellite matches the earth's rotation rate; the satellite appears stationary in position from the earth.
Geocode	The precise referencing of digital data to a specific geographic system
Geodetic position	A position of a point on the surface of the earth expressed in terms of geodetic latitude, longitude, and height.
GFE	Government Furnished Equipment
GFI	Government Furnished Information
GFM	Government Furnished Material
GGI	Global Geospatial Information
GGM	GPS-Guided Munitions
GIF	Guidance Integrated Fuze
GII	Global Information Infrastructure
GIS	Geographical Information System. A system for archiving, retrieving, and manipulating data that has been stored and indexed according to the geographic coordinates of its elements.
GISR(C)	GCCS-M Intelligence, Surveillance and Reconnaissance Capability
GIST	Graphic Intelligence Support Terminal
GLAT	Government Lot Acceptance Test
GLCM	Ground-Launched Cruise Missile (Tomahawk)
Global Grid	A world-wide, high capacity communications system being implemented by commercial interests which can be exploited by DOD. The use of fiber optics and high-bandwidth comm satellites, along with ATM will afford the military capability using commercially developed communications technology.
Global Hawk	The Air Force's high altitude, long endurance UAV designed to provide wide area coverage (up to 40,000 nm^2 per day). It successfully completed its ACTD (Tier II+) and its Military Utility Assessment in June 2000. It takes off and lands conventionally on a runway and carries a 1950 lb payload for 36 hours. Global Hawk carries both an EO/IR sensor and a SAR with MTI capability, allowing day/night, all-weather reconnaissance. Sensor data is relayed over line-of-sight (X-band) and/or beyond-line-of-sight (Ku-band SATCOM) data links to its Mission Control Element (MCE), which distributes imagery to up to seven theater exploitation systems. ACTD residuals consist of four aircraft and two ground control stations. The Air Force has budgeted for two aircraft per year starting in FY02; IOC is expected to occur in FY05. Wt: 25600 lbs, length: 44.4 ft, span: 116.2 ft, ceiling 65000 ft, radius 3000 nm (OSD UAV Roadmap April 2001).
GLOBIXS	Global Information Exchange System
GLONASS	Global Navigation Satellite System. The Russian equivalent to the U.S. GPS satellite navigation system.
GMT	Greenwich Mean Time
GMTI	Ground Moving Target Indicator
Gnat 750	The Tier I UAV, built by General Atomics for the CIA, this UAV is to fly up to 25 kft, with a range of 500-1200 nmi, have an endurance of 24-30 hrs (20 hrs on station). Its wingspan is 48.7 ft, its length is 26.7 ft, and it has a single rear-push propeller engine. It can carry up to 450 lbs of payload. Its EO/IR package is capable of NIIRS 6 or better, and its SAR package is capable of 1 ft IPR. It has both los and SATCOM links (UHF FLTSATCOM and Ku-band commercial satcom). This and the other Tier systems below Tier II+ will be assigned to service units with the CINCs drawing on the components as needed.
GNC	Global Navigation Chart (1:5,000,000)
GNI	Global Network Initiative. A classified operational WAN.
GNSS	Global Navigation Satellite System. European version of GPS proposed, called Galileo.
GOB	Ground Order of Battle

GOBI	General Officer Brilliant Idea
GOSIP	Government Open Systems Interconnection Profile
GOTS	Government Off-the-Shelf Systems
GP bombs	General purpose bombs (e.g., Mk 80 series)
GP	General Purpose
GPALS	Global Protection Against Limited Strike
GPR	Ground Penetrating Radar
GPS	Global Positioning System. A satellite-based radionavigation system consisting of 24 satellites, arranged in 6 orbital planes, 10,898 nautical miles above the Earth.
GPU-...	Gun Pod Unit ...
GPU-2	20mm aircraft gun pod
Grand SLAM	CASOM candidate similar to SLAM-ER
Green Flag	An ACC EW capabilities & readiness exercise, conducted with Red Flag. Essentially an EW command post exercise.
GRD	Ground Resolved Distance
GRID	GPS-Rectified Imagery Demonstration. Use of National assets to supply geo-coordinates for GPS weapons. Program tied to TALON SWORD for targeting a GPS-equipped weapon. Is a part of TALON ZEBRA.
Gryphon	see GLCM
GS	Ground Speed
GSD	Glide Slope Descent
GSD	Ground Sample Distance
GSU-31	JDAM-l, built by McDonnell Douglas (may be either Mk 84 or BLU-109 warhead)
Guard Rail	An Army RC-12/RU-21 airborne intelligence gathering system. The Army currently has 50 of these, but are scheduled to retire them.
GUI	Graphical User Interface
Guidance System	Concerning missiles, that system which performs data analysis, processes intelligence, and issues the necessary commands enabling a guided missile to reach a specified destination, with special emphasis on the flight path or orbit and on the information for determining the proper course whether computed externally or within the missile itself. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
Guided Missile	An unmanned self-propelled vehicle, with or without a warhead, which is designed to move in a trajectory or flight path all or partially above the earth's surface and whose trajectory or course, while in flight, is capable of being controlled remotely, by homing systems, or by inertial and/or programmed guidance from within. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
GW Mk x	Guided Weapon Mk x (Walleye)
GWEF	Guided Weapon Evaluation Facility

H

H-Hour	Specific time (hour) at which operation commences
HA	Hit Assessment (see BDI)
HAE	High Altitude Endurance (UAV). See Global Hawk
HALE	High Altitude Long Endurance (UAV)
Hammerhead	JDAP-PIP concept with SAR terminal guidance
HARM	AGM-88 High Speed AntiRadiation Missile
Harpoon	AGM-84 / RGM-84 / UGM-84 antiship missile family
HART	High Accuracy for Registration and Targeting. The MERIT supported exploitation workstation software, equivalent to the Navy's PTW.
HART	Hornet ATFLIR Reactive Targeting (capability)

Have	USAF programs carrying Limited Distribution access controls
Have Dash	Advanced air-to-air missile concept(s)
Have Flag	Reported as "USAF long-range, high-speed air-to-surface missile" ??
Have Life	Lightweight (2500 lb class) variant of AGM-1 42 Have Nap
Have Mover	SOCID-class air-to-surface weapon concept
Have Nap	AGM-142 large standoff weapon; Israeli design
Have Point	Cl-class air-to-surface munition concept
Have Quick	A UHF LOS frequency-hopping, jam-resistant communication system developed by the Air Force for tactical voice applications. It is applied to existing radios (services, NATO). In the Navy, it is applied to the AN/WSC-3 and AN/ARC-182. Have Quick IIA is the NATO standard.
Have Rebound	Bistatic radar concept for air-to-air guidance
Have Slick	Conformal, supersonic dispenser technology demonstrator
Have Torch	IR guidance concept for air-to-air missiles
Have Void	BLU-109 (1-2000) penetrator bomb
Have Wedge	Dual-mode (EO + ARH) guidance demonstration for Maverick
Hawk	MIM-23 SAM
HBP	High Band Prototype
HDBT	Hard / Deeply Buried Target
HDG	Heading
HDOP	Horizontal Dilution of Precision
HDR	High Data Rate
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEL	High Energy Laser
Hellfire	AGM-114 helicopter-launched weapon
HERO	Hazards of Electromagnetic Radiation to Ordnance
HF E-Mail	Use of commercial packet radio technique in the HF band to give fleet localized WAN coverage.
HF	High Frequency (3-30 MHz)
HFC	Hybrid Fiber Coax
HGV	Hypersonic Guided Vehicle concept
HIC	High Intensity Conflict
HIPPI	High-Performance Parallel Interface. A completed standard of ANSI for high-speed data channel (800 and 1600 Mbits/sec) with built-in features for high-performance switching (networking).
HIS	HyperSpectral Imagery
HITL	Hardware-in-the-Loop
HITS	Hawaii Information Transfer System
HMI	Human Machine Interface
HMM(W)V	High Mobility Multipurpose (Wheeled) Vehicle (“Hummer” or “Humvee”)
HMX	High Melting Explosive. It is also known as Octogen, 1,3,5,7-tetranitro-1,3,5,7-tetrazacyclo-octane, a mixture of RDX and TNT.
HOB	Height of Burst
HOBOS	GBU-8 HOming BOmb System
HOJ	Home on Jam
HOTAS	Hands-On Throttle and Stick. A throttle stick coupled with finger switches and track devices to allow multifunctional aircraft (air-to-air, air-to-ground) pilots to control displays and avionics moding while still controlling the throttle controls. Eliminates “fat fingering” of the cockpit display switches. Found on the F/A-18.
HPLPG	High Performance Liquid Propelled Gun

HPM	High Power Microwave
HQ	Headquarters
HRD	High Rate Data
HRR	High Range Resolution
HS	Helicopter ASW Squadron
HSD	Horizontal Situation Display
HSFB	High Speed Fleet Broadcast
HSI	Human-System Interface
HTG	Hard Target Graphic
HTML	Hypertext Markup Language
HTOP	Hard Target Ordnance Program
HTS	HARM Targeting System. See also AN/ASQ-213
HTSG	Hard Target Support Graphic
HTTP	Hypertext Transport Protocol
HTW	Hard Target Weapon
HUD	Head-Up Display
HUMINT	Human Intelligence
Hummer	see HMM(W)V
Humvee	see HMM(W)V
Hunter	Intended as the Army's Short Range UAV system for division and corps commanders. It takes off and lands (using arresting gear) on runways and can carry 200 lb for over 11 hours. It uses a gimbaled EO/IR sensor, relaying its video in real time via a second airborne Hunter over a C-band line-of-sight data link. Hunter deployed in 1999 to Kosovo to support NATO operations. Although production was cancelled in 1996, seven LRIP systems of eight aircraft each were acquired, four of which remain in service: one for training and three for doctrine development and exercise and contingency support. Hunter is to be replaced by the Shadow 200 (Tactical UAV, or TUAV) starting in FY03. Wt: 1600 lbs, length: 23 ft, span: 29.2 ft, ceiling: 15000 ft, radius: 144 nm (OSD UAV Roadmap April 2001).
HVM	HyperVelocity Missile (anti-armor)
HVUCAP	High Value Unit Combat Air Patrol (e.g., fighter escort for AEW or jammer)
HWIL	Hardware-in-the-Loop
HWVT	Hypervelocity Weapon Vehicle Technology
HYCORDER	Hyperspectral Covered Lantern Optical Recognition Device Recorder
Hydra 70	Replacement for 2.75-inch (-70 mm) FFAR
HYMSMO	Hyperspectral MASINT Support to Military Operations
Hz	Hertz. Basic unit of frequency measurement, having units of 1/sec.

I

I & W	Indications and Warnings
I- 800	Improved 800-lb class warhead (see also APW); item weighs 780 lbs total
I-1000	Improved 1000-lb class bomb
I-2000	BLU-109 Improved 2000-lb class bomb
I-Hawk	Improved Hawk SAM
I-Level	Intermediate Level (i.e., between user and depot)
IA	Image Analyst/Information Assurance
IAAS	Intelligent Air Advisory System
IADS	Integrated Air Defense System
IAM	lnertially Aided Munition (bomb guidance kit); now part of JDAM
IAR	Imagery Analysis Report
IAS	Indicated Airspeed

IAS	Intelligence Analysis System. MAGTF fusion system for all-source intelligence information. Produces and disseminates finished intelligence to commanders at all levels. Also automates the collection management functions of the SARC. An intermediate Suite IAS provides support to MEUs.
IBAT	Improve BAT (submunition or mini-missile)
IBC	Intelligent Bandwidth Compression
IBIS	Israeli Boost-phase Intercept System
IBS	Integrated Broadcast Service. The system that will integrate TIBS, TRE/TRAP/TDDS by 1998. It is slated to transition to the TADIL-J message standard.
ICAO	International Civil Aviation Organization
ICBM	Inter-Continental Ballistic Missile
ICC	Integrated Command And Control
ICD	Interface Control Document
ICM	Intelligence Correlation Module
ICMG	Intelligence Community Modeling Group
ID	Identification
IDAP	Integrated Defensive Avionics Program (incl. towed decoy)
IDASC	Improved Direct Air Support Central. Assists direct air support for ground elements. It provides automated support for handling tactical air requests from FACs and ALOs within the Marine Division, as well as automated tools for parsing the ATO. Uses information from the ATACC.
IDB	Integrated Data Base
IDE	Integrated Drive Electronics
IDECM	Integrated Defensive Electronic Counter-Measures
IDEX	Intelligence Data Exploitation (Station)
IDL	Interface Definition Language. A CORBA interface language (see ORB).
IDL	Improved Data Link (AN/ZSW-1; formerly AN/AXQ-14). The Air Force upgrade to the analog weapon data link, used primarily to control the AGM-130 and GBU-15 video guided bombs.
IDM	Information Dissemination Management
IDM	Improved Data Modem. A modem set equivalent to the ATHS, but more versatile, being developed by NRL and built by Symetrics. It interfaces between tactical radios and the 1553 data bus. Up to four half-duplex UHF radio channels can be programmed to support USA TACFIRE, USAF and USMC digital datalink protocols at rates up to 16 kbps. Messages may be up to 3500 bytes long, and the modem can communicate with up to 100 subscribers. Software written in Ada. Planned for use in rotary and fixed wing aircraft.
IEEE	Institute of Electrical and Electronic Engineers
IES	Intelligence Exploitation System
IESS	Imagery Exploitation Support System. A NIMA program to provide an automated management of national and tactical imagery, as well as the tools for imagery selection and dissemination.
IESS	In-cockpit Engagement and Simulation System
IFC	Integrated Fire Control
IFF	Identification Friend or Foe
IFF(N)	Identification, Friend Or Foe (or Neutral)
IFR	Inflight Refueling/Instrument Flight Rules (same as IMC)
IFTU	In-Flight Target Update
IGM	Inertial Guidance Module
IGTD	Inertial Guidance Technology Demonstration (IAM demo)
IHE	Insensitive High Explosive(s)
IHFR	Improved High Frequency Radios; a component of CNR.
IIII	Integrated Information Infrastructure
IIR	Imaging Infrared

IJMS Interim JTIDS Message Standard. Early version of JTIDS message format found on Class 1 JTIDS terminals. It is *incompatible* with the message format found in Class 2 JTIDS terminals.

ILS Instrument Landing System

IM Insensitive Munition

Image Any pictorial representation of remote sensing data. In contrast, *photograph* refers only to images recorded directly onto film, such as with an aerial camera.

Imagery Interpretation:
1. The process of location, recognition, identification, and description of objects, activities, and terrain represented on imagery. 2. The extraction of information from photographs or other recorded images. 3. The use of systems, techniques, or processes of analyzing imagery in order to produce significant, reliable, and detailed information concerning the natural or cultural features of the area imaged and to determine or infer the factors which the observable presence, conditions, or use of these features imply.

IMC Instrument Meteorological Conditions (same as IFR)

IMER Improved Multiple Ejector Rack

IMFT Insensitive Munitions Fuze Technology

IMINT Imagery Intelligence

IMMACCS Integrated Marine Multi-Agent Command and Control System

Immediate CAS A CAS strike on a target which could not be identified sufficiently in advance to permit detailed mission coordination and planning. Immediate missions are executed in response to requests by ground commanders to strike unforeseen targets. Usually these missions are accomplished with aircraft that were scheduled for other missions. Response time is critical and aircraft usually are launched/ diverted, and enroute, before mission coordination can take place. (NSAWC)

IMN Indicated Mach Number

IMOM Integrated Many-On-Many

Impact Angle The angle between the missile's velocity vector at impact and the surface of the target.

IMPS Intelligence Driven Mission Planning System

IMU Inertial Measurement Unit

INEWS Integrated Electronic Warfare System

Information Management System:
Resources and activities that are concerned with coordinating, planning, organizing, analyzing, integrating, evaluating, and controlling information.

Information Superiority:
The capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same.

Information Warfare:
A component or area of warfare intended to achieve information superiority by affecting adversary information, information-based processes, and information systems, while defending one's own information, information-based processes, and information systems. (ASD(C3I)-DoD Coordinated Staff)

INFOSEC Information Security

Infosphere A global network of military and commercial communications systems and networks linking information data bases and fusion centers that are accessible to the warrior anywhere, anytime, in the performance of the mission.

Initialization A general term for the process(es) required to prepare an equipment for operation. For the navigation system, this may involve alignment of an inertial platform or the simple definition of current position and orientation.

INMARSAT International Maritime Satellite (a Comms Organization)

INS Inertial Navigation System

INSICOM Integrated SI Communications. Communications at the SCI level to support AAW, ASUW, STW, ASW, and AMW operations. It operates on HF, UHF LOS and on UHF, SHF, and EHF

	SATCOM channels, simultaneously or in combination. It is to replace INTELCAST and INTELNET programs.
Intel	Intelligence
INTELCAST	Intelligence Broadcast Network
Intelligence	Information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding. (Joint Pub 1-02)
INTELSAT	International Satellite. A telecommunications organization, and geo-synchronous satellite family supplying commercial communications. Used by SPAWAR-40 in recent (1993) exercise to pass C-Band (6 GHz up-link, 4 GHz down-link) high-bandwidth (T1) to a CV.
Interdiction	To stop, prevent, or hinder enemy movement or *lines of communication* on land, sea, or in the air, to impede an *enemy* in his movements; to isolate a particular *area* by gunfire, bombing, etc. (AF Dictionary)
IO	Information Operations
IOC	Initial Operational Capability
IOSA	Integrated Overhead SIGINT Architecture
IOT&E	Initial Operational Test and Evaluation
IP	Initial Point. A well defined point, easily distinguishable visually and/ or electronically, used as a starting point for the bomb run to the target. (JCS Pub 1) IPs are used by the terminal controllers and aircrew to accurately position the aircraft for ordnance delivery on target.
IPB	Intelligence Preparation of the Battlefield
IPC	Inter-Process Communication
IPL	Integrated Priorities List
IPL	Image Product Library. A USAF initiative contracted to GDE Systems to provide for an imagery database, and includes software, hardware, help desk support, demonstration, installation and documentation.
IPP	Integrated Program Plan
IPS	Integrated Planning Summary
IPT	Integrated Product (or Program) Team
IR	Infrared
IRAD	Independent Research & Development
IRASM	"Intermediate Range ASM" (tech base concept)
IRBM	Intermediate Range Ballistic Missile
IREPS	Integrated Radar Effects Prediction System
IRHVTA	lnfrared High Value Target Acquisition
IRIG	Inter-Range Instrumentation Group
IRST	Infra-Red Search and Track. An infrared scanning sensor which detects and tracks targets. Its scan time is generally slower than for FLIRs, and is intended for target tracking vice spatial target recognition.
IRSTORM	Infra-Red Seeker Trade-Off and Requirements Model
ISAR	Inverse Synthetic Aperture Radar
ISARC	Intelligence Surveillance and Reconnaissance Cell
ISAS	Intelligent Shelter Attack Submunition
ISCP	Integrated Strategic Capabilities Plan
ISDN	Integrated Services Digital Network. International telecommunications standard for transmitting voice, data and images over a digital line. GCN 2/6/95. It consists of 2 56-kbps channels, supporting voice and multimedia communications.
ISO	International Standards Organization
ISP	Integrated Strike Planning. Planning which integrates individual strike plan requirements with sustained operation strike requirements to optimize the use of both cruise missiles and TACAIR in tactical warfare. The objective is to determine which combination of limited strike assets best achieves the required strike goals while minimizing attrition based upon weapons

	types and launch platform availability. The resultant strike plan, in effect, sub-allocates targets between missiles and TACAIR.
ISP	Intelligence Support Plan
Isp	Specific Impulse. Rocket propellant characterization, the force in lbs. Yielded per lb of propellant, expressed in seconds.
ISPS	Integrated Strike Planning System. A notional system developed in the late 1980s by PMA-281 to integrate TLAM and TACAIR operations. This has been supplanted by TSCM.
ISR	Intelligence, Surveillance and Reconnaissance
ISS/AF	Intelligence Support To Strike / Amphibious Forces
ISW	Integrated Strike Warfare
ISWG	Intelligence Support Working Group
ISX	Integrated Service Experiments?
IT-21	Information Technology for the 21st Century
ITALD	Improved TALD concept (see TALD)
ITAG	Inertial Terrain-Aided Guidance
ITER	Improved Triple Ejection Rack
ITG	Infrared Target Graphic
ITL	Intent to Launch
ITNS	Integrated Tactical Navigation System
ITOW	Improved TOW (see M65 and TOW)
ITW	Imminent Threat Warning
IV&V	Independent Validation & Verification
IVA	Image and Video Analysis
IVIS	Inter-Vehicular Information System
IW	Information Warfare
IWARS	Integrated Warfare Architectures. A new navy budget process stressing future capabilities rather than specific weapon systems. It replaces Joint Mission Assessments (naval aviation, surface warfare, or underwater operations). Five areas comprise IWARS: power projection, air dominance, maritime dominance, deterrence, and information superiority. This new process will be administered by N71, a two-star position.
IXS	Information Exchange System

J

J/S	Jammer-to-Signal power ratio
JAAT	Joint Air Attack Team
JAC	Joint Analysis Center
JACG	Joint Aeronautical Commanders Group
JAF	Joint Attack Fighter
JANNAF	Joint Army-Navy-NASA-Air Force
JAOC	Joint Air Operations Center
JAOP	Joint Aerospace Operations Plan
JASMO	Joint Air-to-Surface Munitions Office
JASMOC	Joint Air-to-Surface Munitions Oversight Committee
JASOPS	Joint Air & Space Operational Plans
JASORS	Joint Advanced Special Operations Radio System. Provides ground, airborne and seaborne operational elements with a low probability of intercept communications capability.
JASSM	Joint Air-to-Surface Standoff Missile/Mission
JAST	Joint Advanced Strike Technology (aircraft). The next authorized DOD program addressing the fighter and strike role for tactical aircraft. Applicable to deployable aircraft beyond the year 2010 (IOC). The program focuses on two goals: establishing truly joint USN/USAF

	operational requirements from the beginning and cutting costs by early demonstration of critical advanced technologies. Commonality of requirements and resulting common avionics, engines and other subsystems is expected to help keep costs down. A common silhouette with variants for various service needs is an expected outcome.
JAWS	Joint Advanced Weapon System (replaces AHWS)
JAWS	Joint Air-to-surface Weaponeering System
JBS	Joint Broadcast System. A Bosnia-specific portion of the Pentagon's GBS. JBS accepts EO, IR or SAR imagery from the Predator UAV or other reconnaissance aircraft and sends it by satellite to its ground station in Hungary. From there it goes again by satellite to the Joint Analysis Center in Molesworth UK via Intelsat 602. From there it goes via fiberoptic cable to the U.S. From the U.S., the signal is sent via the Orion satellite system for direct broadcast downlink to various headquarters in the Bosnian theater of operations. The JBS link, which has a latency of about 1 sec, can handle 30-fr/sec video, and will ultimately use 1-meter aperture receiver dishes.
JCCX	Joint Command and Control Ship
JCMT	Joint Collection Management Tools
JCS	Joint Chiefs Of Staff
JCSE	Joint Continuous Strike Environment
JCTN	Joint Composite Tracking Network
JDAM	Joint Direct Attack Munition (see also GBU-29, -30, -31, -32). A tail kit for 1000 and 2000 lb. free-fall bombs, turning them into near precision weapons. The kit consists of a GPS receiver and an inertial guidance system, enabling the weapons to hit within 10-15 meters of the desired aimpoint (unaided accuracies are on the order of 35 meters). The cost for the weapon in production (~74000 kits) is expected to be $20000-$25000 apiece.
JDAP	Joint Direct Attack Program (USAF/USN close-in weapons)
JDEP	Joint Distributed Engineering Plant
JDISS	Joint Deployable Intelligence Support System. A wide-area intelligence network coupled to workstation and a multimedia software environment to distribute C4I information across world-wide Intel centers.
JDL	Joint Directors of Laboratories
JDN	Joint Data Network
JEM	Jet Engine Modulation
JETS	Joint Emitter Targeting System
JEWC	Joint Electronic Warfare Center
JEZ	Joint Engagement Zone
JFACC	Joint Forces Air Component Commander
JFFC	Joint Force Fire Coordinator
JFFCC	Joint Force Fire Coordination Cell
JFLCC	Joint Force Land Component Commander
JFMCC	Joint Force Maritime/Marine Component Commander
JIAWG	Joint Integrated Avionics Working Group
JIC	Joint Intelligence Center. A theater intelligence system to support Unified and specified Commands. Locations in HI and VA.
JICO	Joint Interface Control Officer
JIMC	Joint Information Management Center
JINTACCS	Joint Interoperability Of Tactical Command And Control System
JIPTL	Joint Integrated Prioritized Target List
JITC	Joint Interoperability Test Command
JLENS	Joint Land attack cruise missile defense Elevated Netted Sensor
JMA	Joint Mission Assessment. A process initiated by Adm Owens (now retired) to evaluate Naval capabilities and needs across all areas of Naval Warfare.

JMCIS Joint Maritime Command Information System. An integration of various Navy command systems, including NTCS-A, OSS, OBU. JMCIS '98 is a major departure for JMCIS. It is based on PCs vice UNIX stations and servers, and adopts Microsoft Windows NT® as the client software environment for applications and networking.

JMEM Joint Munitions Effectiveness Manual

JMIP Joint Military Intelligence Program

JMPS Joint Mission Planning System

JMRASM Joint Medium Range Air-to-Surface Missile (see MRASM)

JMSWG Joint Message Standards Working Group

JNC Jet Navigation Chart (1:2,000,000)

JNL JTIDS Network Library

JOC Joint Operations Center

JOG Joint Operational Graphics (1:250,000)

Joint/Combined/Coalition Forces
A general term applied to a force composed of significant elements, assigned or attached of the Army, the Navy or the Marine Corps, the Air Force, two or more of these Services, two or more allied nations, or military elements of nations that have formed a temporary alliance for a specific purpose.

Joint STARS see JSTARS

JOPES Joint Operational Planning and Execution System

JOPREPS Joint Operational Reporting System

JORD Joint Operational Requirements Document

JOTBS Joint Operational Test Bed System

JOTS Joint Operational Tactical System

JOTS-II Joint Operational Tactical System. AN/USQ-112A

JPEG Joint Photographic Experts Group

JPF FMU-152 Joint Programmable Fuze

JPI Joint Precision Interdiction. A CONOPS developed by SACEUR. It is intended to create a substantial maneuver differential for Allied forces which are expected to be mobile but small in size, and which will operate on a low density conventional battlefield. It emphasizes attacks by air and missile means to provide conventional superiority flowing from maneuver advantages.

JPN Joint Planning Network. The multimedia intranet for the operational Navy, also called IT-21. It provides voice, video, data, text, graphics, and imagery connectivity to all ships and command elements afloat and ashore, supporting these C2 functions: Common Operational Picture, operational planning and rehearsal, command communications, information access, decision support. It will also support logistics, training and education, medical and dental care, personnel administration/disbursing, unit administration, and regional support services. Quality of life services such as family communications and distance learning are also supported.

JPO Joint Program Office

JPOC-95 Joint Program Optic Cobra. A CENTCOM sponsored Joint Project Optic Cobra Theater Missile Defense scenario overlaid on Roving Sands-95.

JPTS Joint Precision Targeting System

JRMC Joint Recognition Materials Committee

JROC Joint Requirements Oversight Council

JRTC Joint Readiness Training Center

JSAF Joint SIGINT Avionics Family. An open system architecture upgrade to modernize SIGINT equipments by 2010.

JSAS JFACC Situational Awareness System

JSEAD Joint Suppression of Enemy Air Defenses

J-Series Family of TADILS:
The family of data links based on common data elements, consisting primarily of the J-Series data elements, J-Series messages, and the communications protocols and hardware for Link 16 (TADIL-J), Link 22, and VMF, as well as point-to-point, and radio/satellite broadcast J-Series

	data link capabilities developed in the future, as dictated by the Joint Tactical Data Link Management Plan.
JSGCC	Joint Service Guidance & Control Committee
JSIPS-N	Joint Services Image Processing System-Navy. A ground station to review, process, and disseminate national strategic, or tactical imagery to combat commanders.
JSOC	Joint Special Operations Command. Located at Ft. Bragg, NC.
JSOR	Joint Service Operational Requirements, old term ... see SORD
JSORD	Joint System Operational Requirements Document
JSOW	Joint StandOff Weapon; AGM-154 (formerly AIWS)
JSPP	Joint Service Program Plan
JSSA	Joint Stealth Strike Aircraft
JSSTO	Joint Service Science & Technology Objectives
JSTARS	Joint Surveillance Target Attack RADAR System. A joint USAF-Army system integrating a side-looking multi-mode radar in an E-8A platform to create a targeting system able to detect ground-based objects, whether stationary or moving. The aircraft is under USAF management, but the program and ground station elements are under Army C^3I management.
JSTEB	Joint Synthetic T&E Battlespace
JSTPS	Joint Strategic Target Planning Staff
JT&E	Joint T&E
JTA	Joint Technical Architecture
JTAGS	Joint Tactical Air-to-Ground Station
JTC	Joint Targeting Center
JTCG/ME	Joint Technical Coordination Group (/Munition Effectiveness)
JTCTS	Joint Tactical Combat Training System
JTF	Joint Task Force
JTICG	Joint Technology Interface Control Group
JTIDS	Joint Tactical Information Distribution System. A high-capacity, jam-resistant, secure digital information system permitting the distribution of intelligence, C2, targeting, and situational awareness data among fighter and surveillance aircraft, ground and air defense units, and naval vessels. Commonly referred to as Link-16. Operates at L-Band, using TDMA. Effective throughput: 57 kbps (x 2). It operates in the UHF (L_X) band and provides LOS operation up to 300 nmi with a relay capability to extend operations beyond LOS. The JTIDS waveform consists of a series of 6.4 us pulses in the 960 MHz to 1215 MHz band with anti-jamming capability using frequency hopping techniques. It accommodates both the digital information associated with Links 14, 4A, and 11 and secure voice. In its TDMA scheme, the bit stream is subdivided into epochs of 12.8 minutes each, consisting of 64 frames of 12 seconds each, which in turn consists of 1536 time slots of 7.81 ms each. Each time slot has a 450 data bits capacity. The data is encoded with Reed-Solomon forward error correction. Each frame forms a basic JTIDS message structure divided into network participation groups, such as surveillance, air control, fighter-to-fighter, voice, etc.
JTN	Joint Tactical Network
JTRS	Joint Tactical Radio System. Formerly the programmable modular radio system, a family of radios for secure digital communications, operating in multiple bands and modes. The first system will be delivered to the Army in the 2002-2004 timeframe, and will have a wide bandwidth networked data waveform. Follow-ons are expected to have multiple operating bands and modes.
JTT	Joint Tactical Terminal
JTTP	Joint Tactics, Techniques and Procedures
JV2010	Joint Vision 2010
JTW	Joint Targeting Workstation
JUDI	Joint Universal Data Interpreter. A program developed to translate text messages among Army, Navy, and AF systems. The current system is rather limited; it is nothing more than a way of getting text translated across various C2 systems.

'Judy'	Radar contact of target. Control of intercept to pilot.
JWCA	Joint Warfare Capabilities Assessment. A process formulated to assess military acquisition capabilities. Based on JMA process in the Navy.
JWCO	Joint Warfighting Capability Objective(s). Twelve objectives, developed by the Joint Staff in collaboration with the Office of the Secretary of Defense (OSD) and the Service science and technology executives, which represent the most critical capabilities for maintaining the warfighting advantage of U.S. forces.
JWE	An iterative process to examine innovative approaches to joint–force full–spectrum dominance. Carefully formulated hypotheses of joint warfighting operational concepts are examined empirically employing constructive, virtual and live simulations, often embedded in joint–force exercises. The hypotheses suggest how new operational concepts for doctrine, organization, training, leadership, and modernization can co–evolve to major improvements in future joint warfighting capabilities. Joint Warfighting Experiments (JWEs) are DoD–wide efforts that include Service Warfighting Experiments (SWEs) and the integration of ACTDs, ATDs, developmental and fielded systems, and emerging commercial systems and capabilities. For example, an important emerging area of focus for JWEs is Information Superiority. The aggressive implementation of JWEs is required to pace the co–evolution of organization, technology, doctrine, and system of the Joint Warfighting Concepts of JV 2010: Dominant Maneuver, Precision Engagement, Focused Logistics, and Full–Dimensional Protection.
JWICS	Joint Worldwide Intelligence Communications System. A system to provide a high-capacity communications network linking the Unified and specified Command JICs, service intelligence chiefs, scientific and technical intelligence centers, and other key intelligence nodes worldwide.
JWID	Joint Warrior Interoperability Demonstration. An annual activity alternatively led by the various U.S. military branches. It is used to test concepts, hardware, training techniques and doctrinal issues to improve joint C4I. The demonstrations are expected to affect acquisition decisions.

K

Kalman Filter	A method for processing data which provides an optimal future estimate based upon multiple time-sequenced statistical measurements.
KCAS	Knots Calibrated Airspeed
KE	Kinetic Energy
KEW	Kinetic Energy Weapon (for SDI)
KIAS	Knots Indicated Airspeed
KOALAS	Knowledgeable Observation Analysis-Linked Advisory System
KPP	Key Performance Parameter (from a requirements document)
KTAS	Knots True Airspeed

L

L1	GPS L-Band signal 1 (1575.42 MHz)
L2	GPS L-Band signal 2 (1227.6 MHz)
L5	GPS L-Band signal. A proposed separate GPS channel for civilian use, to be implemented at 1207 or 1309 MHz, being discussed by DOT and DOD.
LAB	Loft Altitude Bombing
LADAR	Laser Radar
LAM	Land Attack Missile
LAMPS	Light Airborne Multipurpose Systems
LAN	Local Area Network/Longitude of Ascending Node
Lance	MGM-52 SSM
Land Attack	The sum of tactical and strategic fires conducted against land targets.
LANTCOM	see USACOM

LANTIRN	Low-Altitude Navigation and Targeting Infrared System for Night
LAR	Launch Acceptable Region
LAU-...	Launcher, Aircraft Unit
LAV	Light Armored Vehicle
LAWS	Land Attack Warfare System
LBA	Limit(s) of the Basic Aircraft (or Airframe)
LCAC	Landing Craft, Air Cushioned
LCC	Amphibious Command Ship/Life Cycle Cost
LCD	Liquid Crystal Display
LCDL	Limited Capability Data Link
LCS	Low Cost Seeker (for AGM-88 HARM)
LCV	Land Combat Vehicles
LDGP	Low Drag General Purpose (bombs)
LDR	Low Data Rate
LE	Linear Error
LEEFI	Low Energy Explosively Formed Initiator
LEIP	Link Eleven Improvement Program
LEO Sat	Low Earth Orbit Satellite
LEP	Linear Error Probable
Lethal Decoy	see AGM-136 Tacit Rainbow
LF	Low Frequency
LFT&E	Live Fire Test & Evaluation
LGB	Laser Guided Bomb
LGTR	Laser Guided Training Round (not a weapon)
LH	Light Helicopter
LHA	Amphibious Assault Ship, Helicopter
LHD	Amphibious Assault Ship, Multipurpose
LHX	Light Helicopter, Experimental
LIC	Low Intensity Conflict
LimDis	Limited Distribution (security term)
Line of Communication:	Any land, air, or water route connecting a military force in the field with its supplying source or base of operations, and along which supplies and reinforcements move.
Link- 4A	A UHF data link used for controlling fighter aircraft from ships and other aircraft. Uses TADIL C as data format, which is a 5 kbps, half-duplex digital data format used for aircraft control and target information. TADIL-C uses a TDMA technique to communicate with others. Originally designed for an aircraft automatic landing system, it was extended to include C2 for the E-2C and F-14A aircraft. All carrier aircraft use this data link. The communication rate is 3000 bps, 1750 bps for control messaging (V-series) and 1250 bps for reply messaging (R-series.)
Link-11	AKA TADIL A. A two-way, real-time data link which operates in the HF and UHF spectrum using 1950s state-of-the-art kineplex transmission technology and Roll Call protocol. First implemented by the Navy in 1961, it is the primary link used for surveillance, combat weapon direction and battle management. Originally developed as a CV and CG AAW link, its role was expanded to ASW and ASUW. It is implemented on CV(N)s, CG(N)s, DDGs, FFG, SSNs, LHA/LHDs, LCCs and the E-2C, P-3, and S-3. The Air Force uses this link in its E-3A AWACS aircraft to communicate with ground stations and other Joint Service units needing surveillance data. TADIL A the message standard for Link-11 was developed in the 1950s to support the tactical operational needs of that era. It is a time-ordered synchronous, bit-oriented message format. It is defined in JCS Pub 6-01.1 and implemented by the Navy's OPSPEC-411.2 which defines the reporting rules and user coordination responsibilities. It transmits tactical sensor data, and weapons deployment and engagement status information. In the HF band, it provides coverage out to 300 NM, and in the UHF it provides omni-directional coverage of 25 NM ship-to-ship and 150 NM ship-to-air. Link-11 uses a roll call protocol

	controlled by a single net control station. The communication rate is 2250 bps but only 1800 bps is data; the rest is error detection/correction.
Link-16	The bit-oriented TADIL message standard used by the JTIDS and the MIDS. It supports data transmissions at 26800 bps (out of 28880 bps) x1/2/4 (USN doesn't use x4 word packing) and uses a message standard defined in the JTIDS Technical Interface Design Plan and implemented by the Navy through OPSPEC-516.2. (Note—three terminologies JTIDS, Link 16, and TADIL-J are used interchangeably in the JTIDs community. However, to be accurate, the terminologies mean slightly different items: the JTIDS is associated with the system and equipment; the term Link 16 is the tactical radio link designation originated by NATO; TADIL-J is the U.S. DoD protocol.) The word length is 70 bits, plus 5 bits for parity
Link-22	A tactical data link that provides tactical, beyond line-of-sight requirements not met by Link 16, to replace Link 11. It is a secure, flexible, tactical digital data link for real time data exchange over HF and UHF bands between maritime C2P equipped platforms. Link 22, using an F-Series message standard based on TADIL-J, is designed to overcome the major deficiencies of Link 11 (e.g., vulnerability to loss of single network control station, low data rate, susceptibility to electronic countermeasures. The associated physical medium is provided by the NILE Communications Equipment (NCE) that uses TDMA architecture for multinetted communications.
LITDL	Link-16 Interoperable Tactical Data Link. A notional UHF subnet transceiver system, based on the ASW-27C, and interoperable with JTIDS.
LITE	Laptop Imagery Transmission Equipment
Littoral	The littoral is the near land areas of the world and is comprised of two segments: seaward, the area from the open ocean to the shore which much be controlled to support operations ashore; and landward, the area inland from shore that can be support and defended directly from the sea.
LL	Latitude Longitude
LLDR	Lightweight Laser Designator Rangefinder
LLLGB	Low-Level Laser Guided Bomb (see GBU-22, -24)
LLLTV	Low Light Level TV
LLOC	Land Lines of Communication
LLSW	Lethal Loitering Saturation Weapon (generic enhanced Tacit Rainbow concept)
LO	Low Observable
LOAL	Lock-On-After-Launch. A mode of weapons engagement of the target, by releasing the weapon so as to put it into a position to "acquire" and track the target or aimpoint while in the air. This is opposite LOBL in operation. It still allows for MITL or autonomous weapons engagement.
LOBL	Lock-On-Before-Launch. A mode of directing a weapon onto the target aimpoint, by having the weapon "acquire" and be tracking the aimpoint before weapon release. This is done by having the shooter maneuver the weapon's engagement space onto the target or aimpoint and giving the shooter an aural or visual cue that the weapon is locked onto the target.
LOC	Lines of Communication
LOCAAS	Low-Cost Autonomous Attack System. Originally conceived as an unpowered glide submunition having a terminal homing LADAR seeker. Has been revamped as a powered LADAR seeker submunition that is envisioned to behave like a swarm of winged weapons with an intra-swarm data link (see MECDL). Uses TADIL-J for backlink. Launched from ATACMS and possibly other platforms. Weight: 50 lbs. Speed: 200+ knots. Length: 20 inches. Glide Ratio: 9:1 Footprint: 0.5 x 2 nm.
LOCATM	Low Cost Advanced Technology Munition
LOE	Limited Objectives Experiment
LOG	Logistics
LOGAIR	Logistics Aircraft
Longhorn	Extended range (turbojet powered), mmw seeker Maverick concept
LORAN	Long-Range Navigation
LOROPS	Long Range Oblique Photography System
LOS	Line-of-Sight
LOSAT	Line-Of-Sight Anti-Tank

LPA	Littoral Penetration Area
LPD	Amphibious Assault Transport Dock
LPI	Low Probability of Intercept
LPS	Littoral Penetration Site
LPZ	Littoral Penetration Zone
LRAACA	Long Range Air ASW Capability Aircraft
LRASM	"Long-Range ASM" (tech base concept)
LRC	Limited Regional Conflict
LRCCM	Long Range Conventional Cruise Missile (see LRCSW)
LRCSOW	see LRCSW
LRCSW	Long-Range Conventional Standoff Weapon (cancelled)
LRF	Laser Range Finder
LRIP	Low-Rate Initial Production
LRU	Line Replaceable Unit
LSA	Logistics Support Analysis
LSC	Linear Shaped Charge
LSP	Launch Sequence Plan
LSS	Littoral Surveillance System (see Radiant Diamond)
LST	Laser Spot Tracker
LTMS	Light Table Mensuration System
LUV	Lethal Unmanned Vehicle
LVDS	Low Volume Dissemination System
LWIR	Long Wave IR
LZ	Landing Zone

M

M 65	TOW / ITOW missile system
M117	750-lb class bomb
M118	3000-lb class GP bomb
M129	750-lb leaflet "bomb"
MAAP	Master Air Attack Plan
MAD	Magnetic Anomaly Detection/Mutually Assured Destruction
MADAM	Multimode Air Defense Attack Missile (concept)
MAG	Magnetic (Heading/Course) /Marine Air Group
MAGIS	Marine Air-To-Ground Intelligence System
MAGR	Miniaturized Airborne GPS Receiver
MAGTF	Marine Air-To-Ground Task Force. A task organization of Marine forces (e.g., divisions, aircraft wing, and service support groups) under a single command and structured to accomplish a specific mission. The MAGTF components normally include command, aviation combat, ground combat, and combat service support elements (including Navy Support Elements). (Joint Pub 1-02). Currently there are two basic MAGTF organizations used in the USMC: the MEF and the MEU. It is comprised of a CE, a GCE, an ACE and a CSSE.
MAGVAR	Magnetic Variation
MAK–..	Miscellaneous Armament Kit
MALD	Miniature Air-Launched Decoy
MAN	Metropolitan Area Network
Maneuver Warfare:	A philosophy for action that seeks to collapse the enemy's cohesion and effectiveness through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation which he cannot adequately cope with. (FMFRP 0-14) Employment of

	forces in the battlespace combining movement with fire, or fire potential, to achieve a position of advantage with respect to the enemy in order to accomplish the mission. (Joint Pub 1-02)
MANPADS	Man-Portable Air Defense System (i.e., shoulder-fired SAM)
MANTECH	Manufacturing Technology
MAPA	Magazine Arrangement Planning Analysis (or Aid)
MAPS	Military Aircraft Planning System
MARF	Manual Air Refueling
MARS	Missile All-up Round Simulator
MARS	Multi-sensor Agile Reconnaissance System. A planned upgrade to the U-2, to add multisensor fusion to the existing sensor suite (SIGINT, SAR, multipectral (7-band SYERS)). The original plan to add a new hyperspectral (300 bands) sensor has been postponed. The goal is to fuse and cue the sensors to yield enhanced intelligence and include some form of ATR. The goal is to reduce the exploitation and targeting time for the U-2, currently taking hours with ground station processing. The first operational units to be fielded is expected to be around 2004-5. The USAF/ASC has also proposed this to the Global Hawk community.
MARV	Maneuvering Reentry Vehicle
MAS	Maneuver Air Support
MASCII	Modified American Standard Code For Information Interchange
MASINT	Measurement and Signature Intelligence
MATCALS	Marine Air Traffic Control and Landing System. A deployable, air transportable, modular system for controlling the airspace, including arrivals and departures. The system further provides automated tracking based on correlation of radar, IFF, and data link replies.
MATRIX	Multi-source Automatic Target Recognition Information Exchange (system)
MATT	Multi-Mission Advanced Tactical Terminal. A six-channel satellite terminal developed by Allied Signal for the Naval Sea Systems Command, through NRL. Can accommodate up to 6 receive or transmit channels. A 3/4 ATR unit (<45 lbs) holds up to 4 receivers, 2 transmitters, and has embedded cryptographic and message processing. It handles TRAP, TADIXS-B, & TIBS. Application will be initially on the MH-53J Pave Low IIIE helicopters. NRL also developed IDM, and is considering combining the functions of both MATT and IDM into a common terminal.
MAU-...	Miscellaneous Armament Unit ...
Maverick	AGM-65 air-to-surface missile family
MAWS	Medium Attack Air Wings School
MAWTS	Marine Aviation Weapons and Tactics Squadron. (see also WTI)
MBC	Maritime Battle Center. Formed as part of the Naval War College/Naval Doctrine Command Reorganization. As new operational concepts are developed, the Maritime Battle Center division of the NWDC will develop Fleet Battle Experimentation (FBE) plans with the objective of shortening the cycle time between conceptualization of a new capability and providing it to the Fleets and/or Marine Corps. The broad scope of the MBC charter covers the entire range of naval technology evolution and revolution. This will also require support for several broad areas of capability including sensor to shooter process improvement, logistics streamlining and improved communication.
MBR	Multiple Bomb Rack
MC&G	Mapping, Charting & Geodesy
MCAC	Multimission Craft Air-Cushion
MCAS	Marine Corps Air Station
MCCDC	Marine Corps Combat Development Command
MCE	Mission Control Element
MCM	Mine Countermeasures
MCP	Mission Capability Package. The structure around which the Navy will be basing its acquisition strategy. It is an assessment team which looks at a bundle of warfighting issues that to relate to a mission area. This is opposed to the stovepiped, platform and weapons based strategy that supported Navy mission areas. The integration of the MCPs will result in an Integrated Strategic Capabilities Plan. For the first time, capstone (broad military objectives)

	requirements will be based on MCPs. Also for the first time the Navy will base capstone requirements on mission needs. The Navy has created 10 MCPs: tactical command and control; intelligence, surveillance, and reconnaissance; navigation; time critical targeting; theater air missile defense; expeditionary warfare; strategic deterrence; missile defense; undersea warfare; and homeland defense.
MCS	Maneuver Control System. Supports operations planning and control for any part of the Army C2 System. Provides information on own forces, enemy forces and battlefield characteristics to commander and staff. Displays data generated within air/land combat environment. It is transitioning to common hardware/software.
MCSSC2	Marine Combat Service Support Command and Control. A logistics and personnel support system, allowing Combat Service Support commanders to exercise C2 over their forces.
MCWL	Marine Corps Warfighting Laboratory. see Commandant's Warfighting Laboratory (CWL).
MDA	McDonnell Douglas Aerospace. Formerly MDC and MDMSC. Now Boeing
MDA	Missile Defense Agency. The new name for BMDO, acknowledging its role as a Defense Agency.
MDC	McDonnell Douglas Corporation
MDMSC	McDonnell Douglas Missile Systems Company
MDR	Medium Data Rate
MDS	Mission Display System /Mission Distribution System (TLAM)
MDU	Mission Data Update
MEB	Marine Expeditionary Brigade. An assault echelon embarked aboard approximately 20 amphibious ships. Commanded by a Brigadier General.
MECDL	Mission Equipment Control Data Link
MEF	Marine Expeditionary Force. Active Marine forces are organized into 3 MEFs, one in the Atlantic Command and two in the Pacific Command. Largest and most powerful of MAGTFs is commanded by a Major General or Lieutenant General.
MEMS	Micro-ElectroMechanical System
Mensurate	1. The act, process, or art of measuring. 2. That branch of mathematics dealing with determination of length, area, or volume. 3. Image interpretation measurement of images on film. 4. The process of correlating a point on an image with a geocentric coordinate.
MEO	Middle Earth Orbit. Satellite orbits beyond LEO, but less than GEO. An example is the GPS satellite constellation.
MER	Multiple Ejector Rack
MERA	Maximum Effective Radius Of Action
MERIT	Military Exploitation of Reconnaissance and Intelligence Technologies
MET	Multi-Exploitation Tool
METL	Mission Essential Tasks List
METOC	Meteorological and Oceanographic. Naval command to provide organic and non-organic meteorological and oceanographic support to all Navy and Marine Corps units.
MEU	Marine Expeditionary Unit. Smallest air-ground task force, embarked aboard 3-5 amphibious ships, commanded by a Colonel.
MEZ	Missile Engagement Zone (i.e., SAMS)
MF	Medium Frequency (300 kHz-3 MHz)
MFD	Multi Function Display
MFHBF	Mean Flight Hours Between Failure
MGM-...	Mobile Guided Missile
MGM-31	Pershing SSM
MGM-52	Lance SSM
MGRD	Minimum Ground Resolved Distance. The minimum feature resolution necessary to perform the specific task; the minimum distance detectable between two adjacent features or the minimum size feature detectable.
MGRS	Military Grid Reference System

MHIP	Missile Homing Improvement Program (dual-mode seeker)
MIA	Missing In Action
MIAT	Military Intelligence Analyst's Terminal
MIB	Military Intelligence Board
MIC	Medium Intensity Conflict
MICE	Multiple Image Coordinate Extraction. Proprietary geolocating technique developed by JHU/APL using multiple images containing common points taken from an airborne platform to achieve accuracies equivalent to that of the platform, down to DGPS.
MIDAS	Multifunction Infrared Distributed Aperture System; Mini Data Acquisition System
MIDB	Modernized Integrated Database
MIDL	Miniaturized Interoperable Data Link
MIDS	Multi-functional Information Distribution System. A multi-national (U.S., France, Germany, Italy, and Spain) cooperative development program. Its purpose is to develop and produce a low-volume, lightweight terminal for platforms, such as fighter aircraft, that cannot accommodate the bulkier and heavier JTIDS Class 2 terminals. MIDS will be fully compatible with, and as capable as, JTIDS Class 2, 2H, and 2M terminals. In the airborne terminal, it includes TACAN and will implement both TADIL J and IJMS. MIDS will provide Link-16 capability to the F/A-18s in support of AIC, fighter-to-fighter, air-to-ground and Strike functions.
MIE(W)S	Modernized Imagery Exploitation (Workstation) System
MIF	Maritime Interdiction Force
MIIDS-IDB	Military Integrated Intelligence Data System-Integrated Data Base
MIIS	Modular Imaging Interpretation System
MIL-...	Military (as in MIL-x-x)= to designate a military specification or standard)
MILCON	Military Construction
MILSATCOM	Military Satellite Communications
Milstar	Military Strategic and Tactical Relay. A reliable, antijam, and survivable EHF satellite communications system for strategic and tactical use among all services. Composed of primary (EHF @44 GHz) comm payload, and secondary (UHF) payload. USAF managed. There are 4 satellites which comprise the system. This is claimed to be the last military-owned satcom system to be implemented.
MIM	Military Internet Multicast
MIM- ...	Mobile Intercept Missile (SAM)
MIM- 23	Hawk SAM
MIM- 72	Chaparral SAM (variant of Sidewinder)
MIM-104	Patriot SAM
MINT	Multi-Source Intelligence. System planned to replace MATRIX
MIO	Maritime Intercept Operations
MIRV	Multiple Independent Reentry Vehicles
MIS	Management Information System
MISREP	Mission Report
Mission	1. The task, together with the purpose, which clearly indicates the action to be taken and the reason therefor; 2. In common usage, especially when applied to lower military units, a duty assigned to an individual or unit (a task); 3. The dispatching of one or more aircraft to accomplish one particular task. (JCS Pub 1-02)
Mission Planning:	The process by which attack commands are translated into execution plans. It does not include target, platform or weapon selection. It begins when a command decision has been made to attack a target with a platform/weapon combination. Mission planning constitutes that combination of information processing and decision making which develops the mission data used in weapon delivery. There are two levels of mission planning: force-level and platform-level. Force-level mission planning involves force packaging, deconfliction, and coordination.

	Platform-level mission planning is the preparation of detailed execution plans: routes, aimpoints and procedures. (DSB Task Force on JPI, June 1994)
Mission Rehearsal:	
	The practice of planned tasks and functions critical to mission success.
MISST	Mobile Intelligence Strike Support Team. A NAWCWPNS mobile exploitation facility used in demonstrations and operational support, consisting of advanced exploitation workstations, analog and digital communications gear, and advanced planning and preparation software systems.
MITL	Man-in-the-Loop
MIW	Mine Warfare
Mk 1 Guided Wpn:	
	Walleye I
Mk 4	20mm aircraft gun pod
Mk 4l DST	Mk 84 destructor (mine)
Mk 5 Guided Wpn:	
	Walleye II
Mk 20	Rockeye cluster weapon
Mk 21 Guided	ER Walleye I
Mk 23 Guided	ER Walleye II
Mk 36 DST	Mk 82 destructor (mine)
Mk 40 DST	Mk 83 destructor (mine)
Mk 44	Torpedo, air drop (obsolete)
Mk 46	Torpedo, air drop
Mk 50	Torpedo, air drop
Mk 55	Sea mine
Mk 56	Sea mine
Mk 58	13-lb marine marker
Mk 58	Walleye I warhead (LSC type; item weighs 825 lbs total)
Mk 60	Sea mine (CapTor)
Mk 76	25-lb practice bomb
Mk 77	Fireye napalm bomb
Mk 81	250-lb class GP bomb
Mk 82	500-lb class GP bomb
Mk 83	1000-lb class GP bomb
Mk 84	2000-lb class GP bomb (warhead alone weighs 1920 lbs)
Mk 94	500-lb chemical bomb
Mk-106	5-lb practice bomb
Mk-116	Weteye chemical bomb
Mk-122	Fireye napalm bomb (see also Mk 77)
MLAS	Multiple Link Antenna System (see MSAG)
MLRS	Multiple Launch Rocket System
MLS	Multi-Level Security
MLV	Mission Loader/Verifier
MMA	Multimission Maritime Aircraft
MMBA	Multi-Mode Multi-Band Antenna
MMC	Miniature Munition Capabilities
MMDHAMA	Multi-Media Dynamic Handoff Assigned Multiple Access
MMDL	Multiband/Multi-TADIL Datalink
MME	Missile Mission Effectiveness
MMI	Man-Machine-Interface

MMIC	Miniature Microwave Integrated Circuit
MML	Master Mission Library
MMS	Multi-Mission Ship
MNS	Mission Need Statement
MOA	Memorandum of Agreement /Military Operating Area
MOAT	Missile-Onboard-Aircraft Test
MOB	Missile Order Of Battle
MOBSTR	"Mobile Stretch" Groundstation. The ground-based relay link between the U2 and its sensors and the DGS. Data is compressed and reformatted to more efficiently communicate between the aircraft and the DGS.
MODTRAN	Moderate-resolution Transmission (Model)
MOE	Measure Of Effectiveness
MOMS	Map, Operator, and Maintenance Station (USMC)
MOP	Memorandum of Policy
MOOTW	Military Operations Other Than War
MOU	Memorandum of Understanding
Mountain Top	A demonstration, conducted in the mid-90s, to support the OTH targeting aspect of CEC. It couples an airborne CEC node with mountain top based radars simulating an airborne asset, and a surface-based missile shooter to simulate CEC OTH operation.
MOUT	Military Operations in Urban Terrain
MP	Mensurated Point
MPE	Mission Planning Executive
MPR	Mission Planning Request
MPS	Mission Planning System
MPM	Mission Planning Module
MR-UAV	BOM-145 Medium Range UAV
MRASM	AGM-109 Medium Range Air-to-Surface Missile (cancelled)
MRBM	Medium Range Ballistic Missile
MRC	Major Regional Conflict
MRE	Multi-Roll Endurance. A term relating to the Navy's follow-on to the VTUAV.
MRISS	Mission Rehearsal Imagery Support System
MRO	Maintenance, Repair and Overhaul
MRO	Mission Reconfigurable Ordnance
MSAG(AAA)	Multifunction Self-Aligned Gate (Active Array Antenna). A tiled array transceiver system developed by ITT/Guilford, operating in the X- and Ku-band, and proposed as an application for Tactical Control Station (TCS).
MSE	Mobile Subscriber Equipment. ACUS equipment that will allow for circuit switch or packet switch subscribers. Provides means for communicating in both division and corps areas of operations.
MSER	Multiple Store Ejector Rack
MSI	Multi-Sensor Integration
MSL	Mean Sea Level
MSO	Multiple System Operator
MSOW	Modular StandOff Weapon Joint USAF/NATO; cancelled)
MSP	Model Supported Positioning. A funded development to integrate intelligence imagery of known geo-coded precision into an ever more precise targeting data base. The developer is GDE.
MSPT	Multi-Sensor Precision Targeting
MSS	Mobile Satellite Service
MSS-2	Mission Support System 2. AF Program to provide near-term MPS upgrade to keep pace with steadily growing requirements demanding greater processing speed and storage capacity.

MSTAR	Moving and Stationary Target Acquisition and Recognition
MSTS	Multi-Source Tactical System (AF TENCAP)
MTBF	Mean Time Between Failure
MTI	Moving Target Indicator
MTO	Mission Type Order
MTR	Military Training Route
MTTR	Mean Time To Repair
MTW(O)	Major Theater Warfare (Operations)
MU	Memory Unit
MUBLCOM	Multiple-path Beyond Line-of-sight Communications. An army prototype mobile communications satellite system for voice and data, based on a LEO constellation of 64 satellites. The UHF band prototype was launched by Orbital Sciences Pegasus XL rocket on 17 May 99. Development was supported by DARPA.
Multicasting	The transmission of a single copy of the same information to a selected group of stations on a network at the same time. This is really the general case of all transmissions, including broadcasting and unicasting.
MUOS	Mobile User Objective System. Navy Space Command initiative to field the next generation UHF SATCOM.
MURI	Multidisciplinary University Research Initiative
MUSE	MC&G Utility Software Environment. A set of software tools for MC&G processing.
MUSE	Multiple Unified Simulation Environment
MUSIC	Multiple Source Identification Code
MVFR	Marginal VFR (same as MVMC)
MVMC	Marginal VMC (same as MVFR)

N

NAD-27,-83	North American Datum 1927, 1983
NAEW	Naval Airborne Early Warning
NAF	Naval Air Facility
NAI	National Aerospace Initiative
NAIAO	Naval Aviation Interoperability Assurance Office
NALC	Navy Ammunition Logistic Code
NALG	Naval Aviation Liaison Group
NAMPS	Night Attack Mission Planning System
NAS	Naval Air Station
NASP	National Aerospace Plane
NAT	National Afloat Targeting
NATF	Navy Advanced Technology (or Tactical) Fighter (cancelled)
National Eagle	A new imagery processing segment of Eagle Vision. The Eagle Vision processing software/hardware will be modified to accept national imagery and develop prototype image mosaicking software that would permit users in the field to produce their own specialized 3D display products. The mosaics are currently produced by contractor technicians in CONUS and shipped overseas which usually takes weeks. The products has been used for mission planning and rehearsal at Aviano AB, Vincenza, and by the 1st Armored Division in Tuzla. National Eagle was funded by the MERIT office. The National Eagle system will be located at the Space Warfare Center in Colorado Springs, CO. It will consist of one shelter that houses several mission planning systems, to include AMPS, TAMPS, AFMSS, and Powerscene. The mission planning tools help support the warfighters by allowing pilots and other users to view missions and scenarios before going into action.

National Military Strategy:
The art and science of distributing and applying military power to attain national objectives in peace and war. (Joint Pub 1-02)

National Security Strategy:
The art and science of developing, applying, and coordinating the instruments of national power (diplomatic, economic, military, and informational) to achieve objectives that contribute to national security. (Joint Pub 1-02)

NATOPS Naval Air Training & Operating Procedures Standardization

Naval Campaign An operation or a connected series of operations conducted essentially by naval forces, including all surface, subsurface, air, and amphibious troops, for the purpose of gaining, extending, or maintaining control of the sea. (Joint Pub 1-02)

Naval Expeditionary Task Force:
A maritime force capable of fulfilling the requirements of littoral operations consisting of the routinely forward deployed naval forces of a CVBG, an ARG and a MEU(SOC) to include a Commander, and air, sea, landing/amphibious combat functions.

Naval Fires Fires delivered against targets ashore in support of the campaign plan. In a joint campaign, naval fires are the naval contribution to joint fires. Delivering naval fires encompasses target identification and selection, weaponeering, route planning, coordination with friendly ground forces, suppression of enemy air defenses (SEAD) and battle damage assessment (BDA). Naval fires include ordnance delivered by naval aircraft, whether sea based or land based, including ordnance delivered by armed helicopters; sea based fires, including naval gunfire, missiles and rockets; and land-based fires, including artillery, heavy mortars, missiles and rockets.

NAVIS NAVy Input Segment

NAVSPECWARCOM:
Naval Special Warfare Command. Headquartered at Coronado, CA.

NAVSTAR Navigation System with Timing and Ranging

NAWC Naval Air Warfare Center

NAWS Naval Air Weapons Station

NBC Nuclear Biological and Chemical (Warfare)

NBRG National Basic Reference Graphic

NCA National Command Authority

NCAA Non-Nuclear Consumables Annual Analysis

NCC Network Control Center

NCCOSC Naval Command & Control and Ocean Systems Center

NCCS Naval Command And Control Systems

NCEA Non-Combat Expenditure Allowance

NCO Network Centric Operations. Military operations that exploit state-of-the-art information and networking technology to integrate widely dispersed human decision makers, situational and targeting sensors, and forces and weapons into a highly adaptive, comprehensive system to achieve unprecedented mission effectiveness. (Naval Studies Board, on *Network-Centric Naval Forces*)

NCTR Non-Cooperative Target Recognition

NCW Network Centric Warfare—the ability of widely dispersed but robustly networked sensors, command centers, and forces to have significantly enhanced massed effects (N76 Surface Warfare)

NDI Non-Developmental Item (i.e., existing hardware)

NDSB B90 Nuclear Depth / Strike Bomb

NECC Naval EHF Communications Controller

NED North East Down (coord sys)

NEF Naval Expeditionary Force

NEIC Naval Engagement Integration Center

NEO Non-combatant Evacuation Operations

NEPRF Naval Environmental Prediction Research Facility

NERF	Naval Emitter Reference File
NESEAD	Naval Electronic System Engineering Activity Detachment
NESP	Naval EHF SATCOM Program. The Navy portion of the Milstar program. It focuses on a limited capacity, antijam, survivable. low probability intercept/ detection communications system for strategic and tactical forces. The NESP AN/USC-38 terminal will be installed ashore and afloat on both surface and subsurface platforms. It will be compatible with the EHF portion of FLTSATs 7 and 8, UFO satellites 4-9, and all Milstar satellites.
NETF	Naval Expeditionary Task Force
NETSEC	Network Security
NEW	Non-Explosive Warfare
NFCS	Naval Fires Control System
NFFTIO	Naval Fleet/Force Technology Innovation Office. Replaces the ONR NSAP program.
NFIP	National Foreign Intelligence Program. National-level intelligence programs approved by the DCI and part of the consolidated national intelligence budget. It includes activities of the CIA, all national-level DOD intelligence, foreign counterintelligence, reconnaissance activities, staff elements of the DCI and all intelligence activities of other federal departments. This is one part of U.S. intelligence funding, the other being TIARA.
NFN	Naval Fires Network. Formerly LSS, and integrating the ROF architecture.
NFS	Network File System
NGDL	Next Generation Data Link (to be determined)
NGFS	Naval Gunfire Support
NGLO	Naval Gunfire Liaison Officer
NHP	National Hypersonics Plan
NIACT	Naval Intelligence Activity
NIEWS	NTCS-A Imagery Exploitation Workstation
NII	National Information Infrastructure. Introduced by VP Gore, this is the communications network to serve the nation, both commercially and militarily. The communications will be digital and comprise both computer, and multi-media services.
NIIRS	National Imagery Interpretation Rating Scale. The rating categories of Ground Resolved Distance-- 1: 9+ m 2: 4.5 - 9 m 3: 2.5 - 4.5 m 4: 1.2 - 2.5 m 5: .75 - 1.2 m 6: 40 – 75 cm 7: 20 – 40 cm 8: 10 – 20 cm 9: 5 – 10 cm
NILE	NATO Improved Link Eleven. A multi-national effort (Germany, Netherlands, France, Italy, U.S., U.K., and Canada) with the objective of developing a Multiple RF media replacement for Link-11 that improves interoperability among allied nations while meeting NATO and U.S. national requirements. The improved Link-11 message standard has been designated Link-22 and is expected to be based on Link-16. Specific requirements are: enhanced jam resistance; increased throughput; expanded network capacity; improved network management; enlarged range coverage and capacity; greater network reliability; and the use of a TDMA protocol.
NIMA	National Imagery and Mapping Agency. Newly created DOD agency to centralize and streamline image and mapping product dissemination. Takes DMA, and parts of NRO, DARO, DIA, and NPIC in its formation.
NIPRNET	Non-secure Internet Protocol Router Network. The unclassified packet-switched network operated by DOD.
NIPS	Naval Intelligence Processing System. A program to update the hardware and software used on flagships. The program will upgrade from a mini-computer to distributed workstation processing.
NIS	National Input Segment (JSIPS) /Naval Investigative Service
NISC	Naval Intelligence Support Center
NISE	NCCOSC In-Service Engineering
NIST	National Institute of Standards and Technology

NITES	Navy Integrated Tactical Environmental Support Subsystem
NITF	National Imagery Transmission Format. A file format for processing, transmitting and receiving imagery information used in the various SIDSs, operated by the US intelligence community.
NKDS	Navy Key Distribution System. See Classic Lightning.
NM	Nautical Miles
NMCC	National Military Command Center
NMI	Nautical Miles
NMJIC	National Military Joint Intelligence Center
NNOR	Non-Nuclear Ordnance Requirements
NOAA	National Oceanic and Atmospheric Agency
NOARL	Naval Oceanographic And Research Laboratory
NOB	Naval Order Of Battle
NOC	Network Operations Center
NOCONTR	No Contractor access (security term)
NODDES	Navy Oceanographic Data Distribution and Expansion System
NOFORN	No Foreign access (security term)
NOIC	Naval Operational Intelligence Center
NOLO	No Live Operators
NORAD	North American Aerospace Defense (Command)
NP	Navigation Point
NPG	Net Participation Group
NPIC	National Photographic Interpretation Center. Now merged into NIMA.
NRad	Naval Research and Development Center. Now called SPAWAR Systems Center, San Diego.
NREC	National Reconnaissance Executive Committee
NRO	National Reconnaissance Office
NRS	NILE Reference System
NRSA	Naval Research Science Advisor
NRT	Near Real-Time
NRZ	Non-Return to Zero
NSA	National Security Agency
NSAP	Naval Science Assistance Program
NSAWC	Naval Strike and Air Warfare Command. Integrated command formerly known as Strike U, or NSWC (see below). Top Gun, Top Dome, Strike U, and the Fallon ranges are now combined at Fallon, NV. Commanded by Rear Admiral, upper half, as an echelon II facility reporting to CNO.
NSFS	Naval Surface Fire Support. Fires provided by Navy surface gun and missile systems in direct support of a unit or units tasked with accomplishing a mission or achieving an objective.
NSIA	National Security Industrial Association
NSPW	Naval Stores Planning and Weaponeering
NSR	NATO Staff Requirement
NSS	Naval Simulation System
NSW	Naval Special Warfare
NSWC	Naval Surface Warfare Center, Dahlgren VA
NSWC	Naval Strike Warfare Center, NAS Fallon NV. see NSAWC.
NSWDG	Naval Special Warfare Development Group
NSWPC	Naval Strike Warfare Planning Center. A planned upgrade to the CVIC in the Nimitz class carriers, to be initially considered for the USS Nimitz and the USS Ronald Reagan CVs.
NSWTG	Naval Special Warfare Task Group
NSWTU	Naval Special Warfare Task Unit
NTC	National Training Center. Located at Fort Irwin CA.

NTCS-A	Naval/National Tactical Command System-Afloat. Integrates contact and threat warning data from external sources with data from the afloat sources and sensors. Supports tactical planning and direction of a battle group electronic warfare assets and C3 countermeasures assets. Supports general battle management functions of senior commanders.
NTDR	Near Term Digital Radio
NTDS	Navy Tactical Data System
NTIP	Naval Technology Insertion Program
NTM	National Technical Means
NTPF	Near Terminal Position Fix. A navigation system update performed in the vicinity of the target, but prior to the final update or target scene acquisition. An NTPF is more precise than enroute navigation updates, and is used to increase the probability of successful final update or target scene acquisition.
NTS-4	Navy Tessellated Spheroid 4
NUC	Nuclear
NVESD	Night Vision and Electronic Systems Directorate
NVG	Night Vision Goggles
NWCS	NSFS Weapon Control System
NWDC	Naval War College & Doctrine Command. Formed from the Chief of Naval Operations (CNO) tasking to the President, Naval War College to establish and lead the NWDC Reorganization Implementation Group. This group's charter is to improve and formalize the Naval Warfare Innovation Process; lead maritime strategy development; establish the Maritime Battle Center (MBC) and incorporate the functions of the Naval Doctrine Command (see MBC).
NWP	Naval Warfare Publication
NWTDB	Naval Warfare Tactical Data Base /Naval Weapon Threat Data Base

O

O&M	Operations & Maintenance
O&S	Operations & Support
O-Level	Operational Level (i.e., user level)
OADR	Originating Agency Determination Required (security term)
OAG	Operational Advisory Group
OAP	Offset Aimpoint. For terminally guided seeker missile, the desired impact point for the missile when the aimpoint is not the same as the seeker sensor trackpoint. The term offset aimpoint is used instead of aimpoint to highlight the additional data elements necessary to define the geometry of an aimpoint that is offset from the sensor trackpoint.
OAS	Offensive Air Support
OASIS	OTH Airborne Sensor Information System. Part of an overall P-3 upgrade program that also improves the radar, IR, and optical sensor systems and displays, beginning in the Fall of 1998.
OAT	Optional Application Tape
OB	Order of Battle
OBE	Overtaken By Events
Objective	The physical object of the action taken, e.g., a definite tactical feature, the seizure and / or holding of which is essential to the commander's plan. (from JCS Pub 1 dtd 1 Apr 1984)
OBTEX	Offboard Targeting Experiments (USAF WL/AART)
OBU/OED	OSIS Baseline Upgrade/OSIS Evolutionary Development
OC-x	Optical Carrier at Level x. Basic signal rate of SONET
OCA	Offensive Counter Air
OCAC	Operations Control and Analysis Center
OCNR	Office of the Chief of Naval Research
OCR	Optical Character Recognition
OEM	Original Equipment Manufacturer

OEO	Other Expeditionary Operations
OFP	Operational Flight Program. Software program(s) loaded into the memory of the weapon system before the mission data are loaded, and which contain the instructions required to allow the system's onboard computer(s) to control its operation, including control algorithms, gain schedules, logic criteria, flight data, computational algorithms, etc. It includes software for all onboard computer resources (mission computer, GPS, seeker, etc.) before and during flight. It may be resident in the system or downloaded from the fire control system or both.
OMFTS	Operational Maneuver From The Sea. The current operational concept of the U.S. Marine Corps. It applies maneuver warfare to expeditionary power projection operations in a joint or multinational campaign. OMFTS takes full advantage of our ability to seamlessly and continuously project combat power ashore, rapidly attaining campaign objectives. OMFTS exploits the sea as secure maneuver space, and seeks to generate overwhelming tempo and momentum to which the enemy cannot respond.
ONC	Operational Navigation Chart (1:1,000,000)
ONI	Office of Naval Intelligence
ONR	Office of Naval Research
OOA	Out of Area
OOB	Order of Battle
OODA	Observing, Orienting, Deciding, and Acting. Famous loop sequence for conducting an air operation from Col. John Boyd, USAF (retired).
OOTW	Operations Other Than War
OPCON	Operational Control
OPEVAL	Operational Evaluation
OPFOR	Opposing Force
OPLAN	Operational Plan
OPORD	Operation Order
OPSEC	Operations Security
Optical Flow	The apparent velocity vector field corresponding to the observed motion of brightness patterns in successive image frames.
ORB	Object Request Broker. In CORBA, the entity which is used to translate requests between IDL and the local system.
ORCA	JDAM-PIP concept with mmw terminal guidance
ORCON	Originator Control (security term)
ORD	Operational Requirements Document
Organic Intelligence:	Information collected, analyzed and disseminated by naval forces that provides meaningful knowledge on enemy capabilities and probable intentions in a format that enhances the decision making processes of mission planning and execution.
Orthorectification:	A geometric correction technique, often combined with geocoding, that compensates for elevation during resampling.
OS	Ocean Surveillance
OSCAR	Open System Core Avionics Requirements. A replacement intended for the AV-8B Mission and Stores Management Computers, to be named Mission Systems and Warfare Management computers. By using commercial products and practices in an open, object-oriented system, a modular architecture can lead to an easily upgradable and low-maintenance software system. It has been designated an Open Systems Demonstration Project by the Principal Deputy Under Secretary of Defense.
OSCINT	Open Source Intelligence
OSD	Office of the Secretary of Defense
OSI	Open Systems Interconnection. International Standards Organization standard for worldwide communications. Defines a framework to implement protocols in seven layers. GCN 2/6/95.

OSIS	Ocean Surveillance Information System. A system providing automated receipt, processing, fusion and dissemination of all-source surveillance and intelligence data of interest to fleet command authorities.
OSR	Office of Space Reconnaissance
OSS	Office of Strategic Studies. The forerunner of the CIA.
OSS	Operational Support System. A system evolving from the functionalities of WWMCCS Operations Support Group Prototype, and JOTS, among others. It supports multi-warfare fleet and allied readiness assessments; tactical and strategic situation assessments; operations and logistics plan development and assessment; and resource allocation planning and optimization, processing and dissemination.
OT	Operational Test(ing)
OT&E	Operational Test & Evaluation
OTAU	Over The Air Updating. The "push" process by which the Warrior's P2E2I databases are automatically updated, and only value added information will be sent, controlled by information path rules.
OTC	Officer In Tactical Command
OTCIXS	OTC Information Exchange System. Computer-to-computer network tying together operational intelligence centers and the Tomahawk platform for a correlated tactical picture of the engagement arena. It is a DAMA capable tactical satellite comms network for C2 of BG ops and ship-to-ship, ship-to-shore, data link exchange and teletype information.
OTH	Over The Horizon
OTH-T	Over-The-Horizon Targeting
OTHB	Over the Horizon Backscatter (radar)
Outlaw	USN programs carrying Limited Distribution access constraints; old term; see Limit
Outlaw Hunter	A specially equipped P-3C with GPS used in Desert Storm to direct OTH attack aircraft against Iraqi patrol boats, and also to perform battle damage assessment. Has evolved into the OASIS III for the P-3Cs and the Outlaw Viking variant of the S-3B.

P

P Code	Precision Code (GPS term; see also C/A Code)
P&D	Production & Deployment (program phase)
P-Code	Precise code. A sequence of pseudo-random bits which occur at a rate of 10.23 Mbps, with a period of 267 days.
P-JSOW	Turbojet-powered JSOW concept, responding to U.K. CASOM requirement
P2E2I	Preplanned Essential Elements of Information. All the relevant information that the Warrior anticipates is needed, and comprises the initial, static database. As the Warrior progresses into combat the data base will be refreshed and supplemented automatically by the Infosphere. USA concept in "C4I for the Warrior".
P3I	Pre-Planned Product Improvement
PA	Probability Of Attrition
PABX	Private Automatic Branch Exchange
PACAF	Pacific Air Forces
PACE	PMA-281 Advanced Capability Environment
PACOM	U.S. Pacific Command
Pacq	Probability of Acquisition
PAD	Positive Arming Device
PADIL	Patriot Digital Information Link
PARAGON	Prototype Air Reporting And Ground Operating Node (DARPA) . A wide-area surveillance processing system—situational awareness tool. It is composed of a ground node (PGN) and an air node (PAN). DARPA supported.
Patriot	MIM-104 SAM

Paveway	see GBU-10, -12,-16 (Paveway II) LGBs and GBU-22,-24 (Paveway III) LLLGBs
PAWS	Prototype Analyst Work Station
PB	Penetrating-Blast
PBF	Penetrating-Blast-Fragmentation
PCM	Pulse Code Modulation
PCs	Personal Computers
PD	Probability of Detection /Project Definition (program phase) /Pulse Duration
PDA	Personal Digital Assistant
PDD	Presidential Decision Directive
PDOP	Position Dilution of Precision
PDP	Production Data Package
PDR	Preliminary Design Review
PDU	Packet Data Unit
PE	Program Element. The basic budget building block by which Services and DOD agencies track programs and projects. A PE groups the dollar costs and manpower associated with a mission capability or activity.
PEMP	Program Engineering Management Plan
PEO	Program Executive Officer
PERIGEE	Perspective Image Generation and Exploitation. A DIA-sponsored exploitation workstation.
Pershing	MGM-31 SSM
PF2T2EA	Plan, Find, Fix, Track, Target, Engage, and Assess. The time critical kill chain description used by TAMD and AAD communities, equivalent to Detect, Decide, Deliver, Assess chain listing used by the Navy S&T Precision Strike community.
PFA	Probability of False Alarm
PFID	Positive Friendly Identification
PFPS	Portable Flight Planning System
PFRT	Pre-Flight Rating Test(s) (for propulsion systems)
PG	Participation Group
PGM	Precision-Guided Munition
PGW	Precision-Guided Weapon
PHID	Positive Hostile Identification
Phoenix	AIM-54 long range AAM
PHOTINT	Photographic Intelligence
Photo-T	Photo-Telesis
PI	Photo Interpreter
‘Pickle’	Bomb release.
PID	Positive Identification
PIF	Prototype Integration Facility
Pioneer	The Navy/Marine RQ-2 Pioneer UAV has served with Navy, Marine, and Army units, deploying aboard ship and ashore since 1986. Initially deployed aboard battleships to provide gunnery spotting, its mission evolved into reconnaissance and surveillance, primarily for amphibious forces. Launched by rocket assist (shipboard), by catapult, or from a runway, it recovers into a net (shipboard) or with arresting gear after flying up to 4 hours with a 75 lb payload. It currently flies with a gimbaled EO/IR sensor, relaying analog video in real time via a C-band LOS data link. Since 1991, Pioneer has flown reconnaissance missions during the Persian Gulf, Bosnia, and Kosovo conflicts. The Navy currently fields three Pioneer systems (one for training) and the Marines two, each with five aircraft. Pioneer is to be replaced by the Fire Scout VTUAV beginning in FY03. Wt: 452 lbs, length: 14 ft, span: 17 ft, ceiling: 15000 ft, radius 100 nm (OSD UAV Roadmap April 2001).
PIP	Product Improvement Program
PIP	Primary Injection Point. GBS term for fixed uplink sites on UFO GBS satellites.
Pixel	Picture element

PK	Probability Of Kill
PLGR	Precision Lightweight GPS Receiver
PLRS	Position Location and Reporting System. AN/TSQ-129 provides position location information for directing artillery fire, naval gunfire, and air support. Up to 400 units capacity over area of 90000 km^2 ground level to 15000m. It is a UHF, synchronous TDMA radio network (420 - 450 MHz) with TOA positioning and situational display. It employs ECCM through spread-spectrum, frequency hopping, time slot scrambling. The epoch cycle is made up of 256 0.25-sec time frames, which are further subdivided into 128 2-usec time slots. The control is maintained by a master station within a local PLRS community, with time synchronization maintained by a rubidium clock at the master station.
PLSS	Precision Location Strike System
PM	Program Manager
PM(A/S/W)	Program Manager (NAVAIR/NAVSEA/SPAWAR). The person who as cost, schedule and performance responsibilities for assigned naval systems and programs. (See Listing in Other Bits of Military Trivia Section, to follow.)
PMBR	Practice Multiple Bomb Rack
PMCS	Programmable Modular Communication System
PMD	Program Management Direction
POA&M	Plan of Action & Milestones
POC	Point-of-Contact
POET	Primed Oscillator Expendable Transmitter
Pointer	see FQM-151.
POL	Petroleum, oil and lubricants
POM	Program Objectives Memorandum
Popeye	Original (Israeli) designation for AGM-142 Have Nap
POSIX	Portable Operating System Interface
POST	Prototype Ocean Surveillance Terminal
POTS	Plain Old Telephone Service
PP	DMA Points Program
PPBS	Planning, Programming & Budgeting System
PPDB	Point Position(ing) Data Base
PPI	Plan Position Indicator
PPLI	Precise Position, Location and Identification
PPP	Point-to-Point Protocol
PPPI	Pre-Planned Product Improvement
PPS	Precise Positioning Service. The accurate positioning service of GPS provided by using both carrier frequencies (L1 and L2) of GPS; normally restricted to military users.
PRAT	Production Reliability Acceptance Test
PRDA	Program Research and Development Agreement
Precision Fires	A specific and exact attack to inflict sufficient damage on an objective which thereby eliminates its value to the enemy \or to destroy an objective with either precision guided munitions or unguided munitions targeted and delivered with great accuracy, such as by using the Global Positioning System (GPS)
Predator	The Air Force RQ-1 Predator UAV began as an ACTD in 1994 (Tier II) and transitioned to an Air Force program in 1997. It takes off and lands conventionally on a runway and can carry a 450 lb payload for 24+ hours. Operationally, it is flown with a gimbaled EO/IR sensor and a synthetic aperture radar (SAR), giving it a day/night, all-weather (within aircraft limits) reconnaissance capability. It uses both a line-of-sight (C-band) and a beyond-line-of-sight (Ku-band SATCOM) data link to relay color video in real time to commanders. Since 1995, Predator has flown surveillance missions over Iraq, Bosnia and Kosovo. The Air Force operates two squadrons of Predators, and is building toward a force of 12 systems consisting of 48 aircraft. IOC is anticipated in 2001. Wt: 2250 lbs, length: 28.7 ft, span: 48.7 ft, ceiling: 25000 ft, radius 400 nm (OSD UAV Roadmap April 2001).

PRF	Pulse Repetition Frequency
PRI	Pulse Repetition Interval
PRISM	Photo Reconnaissance Intelligence Strike Module. A variant of FTI.
PRM	Production-Representative Models
Project Strike	USAF effort to demonstrate the operational utility of RTIC for combat aircraft and bombers. Considered follow-on to Talon Sword and similar to USN Forward Hunter.
PRR	Production Readiness Review
Ps	Probability of Survival, or Success
PSE	Peculiar Support Equipment
Pseudo-random code:	A signal with random noise-like properties, but which has a repeating, binary pattern.
Pseuodolite	A ground-based transmitter which broadcasts a signal similar to that of a GPS satellite, which can be used for ranging, differential corrections, and other purposes.
PSTS	Precision SIGINT (Spaceborne) Targeting System
PTG	Precision Terminal Guidance
PTRAN	Precision Terrain-Aided Navigation
PTW	Precision Targeting Workstation
PVOD	Probabilistic Vertical Obstruction Data
PWW	Planar Wing Weapon; see GBU-20

Q

QAM	Quadrature Amplitude Modulation
Quickstrike	EX 65 sea mine, or strike variant of F-14
Quiet Knight	A USASOC development program to demonstrate avionics systems that provide improved penetration capability for special operations aircraft through minimization of emissions and terrain masking with mission planning. Avionics elements included ESM threat update and laser radar obstacle avoidance and terrain following.
QPSK	Quadrature Phase Shift Keying. A communication technique to transmit information on the carrier wave by adjusting the phase to four different values (0, 90, 180, 270 degrees), depending on the data being transmitted (Sensors Mag 4/21/01).

R

R&D	Research & Development
R&M	Reliability & Maintainability
R^3B	Requirements, Resources Review Board. The flag officer group that reviews the Navy staff plans and programs. It is intended to develop a collective flag officer sense of what the size, structure and the character of the Navy ought to be in the future, independent of the inputs from the lower-ranking staff.
R95	A GPS term meaning a circle's radius containing 95 percent of the points in the horizontal scatter plot.
RAAP	Rapid Application of Air Power (AF)
RAC	Radar Area Correlation guidance mode
Radiant Agate	Proposed Navy satellite communications program. Would provide stealthy communications to Naval elements in the Arctic region, where current comms satellites cannot reach. May be carrier of Intel community BMD sensor, the follow-on to DSP or FEWS. Envisioned satellite to be one of the Hughes UFO platform, but with the UHF package replaced with sensors and EHF comms gear.
Radiant Brass	Bomb Hit Detection technique
Radiant Cirrus	Passing of selected subimages to tactical units.

Radiant Diamond:	Direct Intelligence feed and real-time exploitation system for surface platforms. Uses electronically scanned array and advanced digital signal processors. Also called LSS.
Radiant Elm	Targeting Sensor geopositioning evaluation of capabilities.
Radiant Hail	Command and Control Console operated on mobile ground and airborne units, taking inputs from satellites and airborne platforms.
Radiant Ivory	DSP 3D
Radiant Jade	Dynamic OOB data to tactical users
Radiant Lightning:	A multi-source fusion workstation
Radiant Mercury:	Comm sanitation and format conversion; dynamic multi-level security and trusted port. Part of Copernicus, and runs on Navy TAC workstations, written in C++, and uses X11/Motif. It will take messages from various comm channels at all levels of classification up to SCI, and disseminate the messages different levels (mostly genser) to appropriately approved systems.
Radiant Oak	Sensor-to-Shooter TENCAP equivalent to AF TALON SWORD; TRAP into the cockpit, demonstrated in August 1993. Off-board targeting data allowed an EA-6B and P-3 to fire HARM and Harpoon missiles respectively from below the radar horizon against a moving patrol craft (both weapons hit the target).
Radiant Silver	Portable simulators
Radiant Tin	Low BW image transmission technique converting digital imagery to mathematical attributes
RAID	Redundant Array of Inexpensive Discs
RAIDS	Rapid Anti-Ship Missile Integrated Defense System
Raindrop	A new digital geocoordinate point mensuration system which is used as replacement to the NIMA DEWDROP government developed [GOTS] software, which was retired in 1999.
RAM	Radar Absorbent Material /Reliability, Availability and Maintainability
RAM	RIM-116 Rolling Airframe Missile (SAM)
RAS	Radar Absorbing Structure
RASER	Research Radar and Seeker Emulator
RATTRAP	Realtime Transient Acoustic Processor
RBA	Revolution in Business Affairs
RBOC	Regional Bell Operating Companies
RCS	RADAR Cross Section
RDC	Rapid Deployment Center. An (Air Force) adjunct to the AOC to more rapidly move planning to the Theater of Operations.
RDS	Rapid Deployable System (Tomahawk)
RDT&E	Research, Development, Test & Evaluation
RDX	Research Department Explosive. It is also known as Cyclonite or Hexogen. It is 1,3,5-trinitro-1,3,5-triazacyclyclohexane.
RECCE	Reconnaissance
RECCEXREP	Reconnaissance Exploitation Report
Recon	Reconnaissance
Reconnaissance	A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy; or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area. Sometimes called RECCE. (from JCS Pub 1 dtd 1 Apr 1984)
Redeye	Early shoulder-fired SAM (being replaced by Stinger)
Red Flag	Combat operations readiness exercises, conducted at Nellis AFB.
REDS	Rapid Execution and Decision Support
Registration	The alignment of one or more sets of image data for a single ground area to a base image or map. Data being registered may be collected at different times or from different types of sensors.
REQUCONF	Request For Confirmation

RESA	Research, Evaluation, and Systems Analysis
RF	Radio Frequency
RFC	Request For Change
RFI	Ready for Issue /Request for Information
RFI	Request for Intelligence. A tasking to outside agencies for an intelligence product resulting from the collection, processing, integration, analysis, evaluation and interpretation of information concerning foreign countries or areas that are of concern to the naval operation.
RFP	RADAR Fix Point /Request for Proposal
RFPI	Rapid Force Projection Initiative
RGM- ...	Ship-launched SSM
RGM- 84	Ship-launched Harpoon antiship missile
RGM-109	Ship-launched Tomahawk SSM (see also BGM-109)
RIM- ...	Ship-launched Radar Intercept Missile (i.e., SAM)
RIM- 2	Terrier SAM (see Standard Missile)
RIM- 7	Sea Sparrow
RIM- 8	Talos SAM
RIM- 66	see Standard Missile
RIM- 67	see Standard Missile
RIM-116	RAM (SAM)
RIO	Radar Intercept Officer
RISC	Reduced Instruction Set Computer
RISTA	Reconnaissance, Intelligence, Surveillance, and Target Acquisition
RITA	Rapid Imagery (video) Transmission to Aircraft
Rivet Joint	AF RC-135 aircraft for ELINT & COMINT intercept and locating. Data processed/ fused and then relayed down on TIBS data link.
RLG	Ring Laser Gyro
RMS	Root Mean Square. The square root of the average of the squared components, or errors.
RMUX	Radar Multiplexer
RO/RO	Roll On / Roll Off
ROAC	Rear Area Operations Center
ROB	RADAR Order Of Battle
ROC	Required Operational Capability
Rockeye	Mk 20 cluster weapon
RODS	Rapid Ordnance Delivery System
ROE	Rules Of Engagement
ROF	Ring of Fire
ROI	Region of Interest
ROIC	ReadOut Integrated Circuit
ROTHR	Relocatable Over the Horizon Radar
Router	Device that forwards network information packets at the network layer, OSI Layer 3. GCN 2/6/95.
RP	Reference Point
RPC	Rapid Positioning Capability
RPTS	Rapid Precision Targeting System
RPV	Remotely Piloted Vehicle
RQ-1	Predator UAV (see Predator)
RQ-2	Pioneer UAV (see Pioneer)
RQ-5	Hunter UAV (see Hunter)
RQ-4	Global Hawk UAV (see Global Hawk)
RQ-7	Shadow 200 UAV (see Shadow)

RRC	Regional Reporting Center
RSO	Reconnaissance Systems Officer
RSOC	Rapid Support Operations Center
RSS	Root Sum Square
RSTA	Reconnaissance, Surveillance and Target Acquisition
RTB	Return to Base
RTDS	Rapid Targeting Dissemination Shelter
RTG	Radar Target Graphic /Reconnaissance Tactical Group
RTIC	Realtime Targeting In the Cockpit
RTIP	Radar Technology Insertion Program (AF)
RTK	Real-Time Kinematic. A differential GPS process where carrier-phase corrections are transmitted in real-time from a reference receiver at a known location to one or more remote "rover" receiver(s).
RTM	RADAR Terrain Mask
RTMAM	RADAR Terrain Mask Altitude Matrix
RTOC	Realtime Targeting Out of the Cockpit
RTR	Real-Time Retargeting
RTS	Rapid Targeting System. The term used to describe the operational cell to handle RTIC-type TACAIR operations. The name originated from the RTIC facility created in Rimini, Italy as it supported the CAOC in Vincenza, Italy. It is also associated with the NAWCWPNS RTIC cell established at NSAWC, Fallon NV.
RTSDL	Real-Time Sensor Data Link. A 45 Mbps datalink using the CDL waveform with CHBDL compatibility.
RTT	Real-Time Targeting (USAF WL/AART)
RTV	Recoverable Test Vehicle (T&E tool; not a weapon)
RUG	Radar Upgrade
RUR-5	ASROC ASW weapon
RV	Reentry Vehicle
RWR	Radar Warning Receiver

S

S&R	Suspension and Release
S&T	Science & Technology
S-A	Safe-Arm device
S/N	Signal-to-Noise power ratio, or Serial Number
SA	Selective Availability. The process used to distort the GPS satellite signals so that unauthorized users cannot obtain the full capabilities of the system.
SA	Situational Awareness
SABER	Situational Awareness Beacon with Reply. An IFF technique developed by N6 and Naval Space Command to track friendly forces. It is comprised of a small UHF transceiver and a GPS receiver. It forms small LOS networks and SATCOM/ Link-16/ OTCIXS connectivity to stations that can maintain and display reporting stations. Reporting can be on an interrogation, periodical or random basis, with up to 2000 stations monitored at one time.
SABMOBILE	SOPD-class concept, based on Have Slick
SAC	Strategic Air Command
SACC	Supporting Arms Coordination Center
SACEUR	Supreme Allied Commander, Europe
SADARM	Sense and Destroy Armor submunition. It is the Army's 1st terminally guided artillery-delivered submunition, entering low-rate initial production. Two 5.8-inch dia. submunitions are ejected from a 155mm projectile at an altitude of 1000 meters, and each can search an area about 150 meters in dia. as it descends by parachute. Produced by Aerojet and Alliant

	Technologies, it uses a combination of millimeter-wave radar and IR sensors for all-weather target detection. Like the SFW, it fires an explosively formed penetrator slug downward at the top of the target.
SAF	Safe-Arm/Fire device /Strategic Air Forces
SAG	Surface Action Group (surface combatants; generic)
SAIP	Semi-Automated Imagery Processing (ACTD)
SAL	Semi-Active Laser guidance
SALTS	Streamlined Alternative Transmission System
SAM	Surface-To-Air Missile
Samson	non-lethal decoy; originally used by Israel (U.S.-built); see TALD
Sanctuary	Air space region where strike aircraft can seek safety from threats before or after attack engagements. It can be created and maintained by TACAIR air supremacy and SEAD aircraft, or formed by masking mountains.
SAO	Special Activities Office
SAP	Special Access Program
SAPIENT	Situational Awareness, Positive Identification, and Engagement Networking Technology
SAR	Search And Rescue /Special Access Required /Synthetic Aperture Radar
SARC	Surveillance and Reconnaissance Center
SASS	Selected Aircraft Service Stores (i.e., nuclear weapons)
SATCOM	Satellite Communications. Commercial C-Band satellites uplink at 5.925-6.425 GHz and downlink at 3.700-4.200 GHz, and divide the spectrum into 24 channels each with 40 MHz (36 + 4) bw, using cross-polarized transmission. The Ku-band satellites uplink at 14.0-14.5 GHz and downlink at 11.7-12.2 GHz, using 36-72 MHz channels, also with cross-polarized transmission.
SATURN	Second-Generation Anti-jam Tactical UHF Radio for NATO
SB	Sentinel Byte. A system to provide unit-level intelligence support focused on automated use of data in tactical AF units.
SBD	Small Diameter Bomb. A recently initiated Air Force program to produce the next-generation small, precision bomb. Influenced by the Miniature Munition Capability initiative and the Small Smart Bomb development program at Eglin AFB, the envisioned weapon would be built to weigh on the order of 250 lbs. and carry around 50 lbs. of explosives. The program will be conducted in 3 phases. The first is to field a near-precision GPS/INS-guided weapon with GPS accuracies. A second phase would add a terminal seeker for increased accuracy and ability to hit a moving target. The third phase would develop a bomb with wide-area search capability. (AW&ST 3/19/01, Def Wk 3/19/01)
SBIS	Space Based Infrared System. Follow-on to DSP, incorporating four mission areas including missile warning, missile defense, technical intelligence and battle space characterization.
SCAMP	Single Channel Anti-jam Man-Portable. An army communications terminal using Milstar and Adv. EHF satellite constellations. It provides worldwide, secure, jam-resistant, covert voice, data and imagery communications.
SCAMPI	??. USSOCOM C3 transmission system. A closed community of communications nodes for C3I between USSOCOM, its components and other government agencies. Uses leased fiber optic and T1 lines.
SCAR	Strike Control and Reconnaissance
SCDL	Surveillance Control Data Link
SCDMA	Synchronous Code Division Multiple Access
SCI(F)	Sensitive Compartmented Information (Facility)
SCIAD	Science Advisor
SCR	Software Change Request
SCSI	Small Computer System Interface
SDI	Strategic Defense Initiative
Sea Dragon	A USMC process for rapid military innovation, to develop new concepts and new technologies to meet future Marine Corps commitments defined from OMFTS. Sea Dragon emphasizes

	developing joint warfighting capabilities. The MCWL is the agent for Sea Dragon execution, currently planned for 5 years to FY01. Three phases comprise this effort, called advanced Warfighting Experiments: Hunter Warrior (FY97), Urban Warrior (FY99), and Capable Warrior (FYs 00-01). Hunter Warrior examines the use of highly mobile dispersed units, innovative C2 procedures, and precision targeting systems. Urban Warrior deals with the urban battlefield, building on Hunter Warrior's experience. Capable Warrior is the culmination of the Sea Dragon effort, and deals with the fleet and MEF-level operations.
SEAD	Suppression Of Enemy Air Defenses. The personnel, equipment and systems that neutralize, destroy or temporarily degrade enemy air defenses in a specific area by physical attack and/or electronic warfare. (adapted from Joint Pub 1-02)
SEALs	Sea Air Land units
SEBASS	Spatially Enhanced Broadband Array Spectrograph System
Seek	USAF programs carrying Limited Distribution access constraints
Seek Bang	Walleye with nuclear warhead (out of service)
Seek Bat	XAIM-97 variant of Standard ARM; not produced
Seek Eagle	F-15 weapons integration program
SEM-E	Standard Electronic Module–E (size)
Sentinel Byte	Intel (OOB) data system for Air Force unit-level mission planning systems
SEP	Spherical Error Probable. The minimum sphere in which contain 50% of all the random samples in a three-dimensional region.
SETA	Systems Engineering and Technical Assistance
SETTOAC	Start-Engine-Taxi-Take-Off-And-Accelerate-To-Climb
SEW	Space and Electronic Warfare
SF	System Functions
SFCP	Shore Fire Control Party
SFF	Self-Forging Fragment
SFW	Sensor-Fuzed Weapon (CBU-97). The world's first terminally guided submunition. It consists of an aircraft-released, cylindrical, tactical munitions dispenser containing 10 submunitions. Each submunitions carries 4 BLU-108 Skeet antiarmor warheads. Each coffee-can-like Skeet descends by parachute in a spiral pattern, scanning the ground below with its IR sensor until it detects a heat source such as a tank engine. It then fires an explosively formed penetrator slug downward through the top of the armored vehicle. The range for each submunition spans 200 x 400 meters.
SGML	Standard Markup Language
Shadow	See AIWS or JSOW
Shadow 200	The Army selected the Shadow (formerly the TUAV) in December 1999 to meet its Close Range UAV requirement for support to ground maneuver commanders. Catapulted from a rail, it is recovered with the aid of arresting gear. It will be capable of remaining on station for 4 hours at 50 km (27 nm) with a payload of 60 lbs. Its gimbaled EO/IR sensor will relay video in real time via a C-band LOS data link. Eventual procurement of 44 systems of four aircraft each is expected with IOC planned in early FY03. Wt: 327 lbs, length 11.2 ft, span: 12.8 ft, ceiling: 15000 ft, radius 68 nm (OSD UAV Roadmap April 2001).
SHARK	Silent Hard Kill (mission concept)
SHARP	Super Hornet Airborne Reconnaissance Pod, now SHared Advanced Recce Pod
SHF SATCOM	An existing Navy program that provides AN/WSC-6(V)1 capability for SURTASS and AN/WSC-6(V)2 for Numbered Fleet Commander flagships. SURTASS has no antijam capability and runs at 64 kbps. The combatant ship system operates at 32 kbps (4800-22000 bps), and degrades under electronic combat environments to 75 bps.
SHF	Super High Frequency (3-30 GHz)
SHOLS	Single Hoist Ordnance Loading System
SHPL	Scalable High-Performance LAN
Shrike	AGM-45 ARM
SI	Sensitive Information

SIAC	Strike Intelligence Analysis Cell
SideARM	AGM-122 short-range ARM
Sidewinder	AIM-9 air-to-air missile
SIDS	Secondary Imagery Dissemination System
SIGINT	Signals Intelligence
SIGP	Single Integrated Ground Picture
SIH	Significant Imagery Highlights
SIIR	Special Imagery Interpretation Report
SIL	System Integration Laboratory
SIMM	Single Inline Memory Module
SINCGARS-V	Single Channel Ground To Air Radio System (VHF). A family of manpack, vehicle and airborne VHF/fm radios that feature high resistance to surveillance and jamming. The last production year for the ground unit is expected to be 2000.
SINS	Ship's Inertial Navigation System
SIOP	Single Integrated Operational Plan
SIP	Single Integrated Picture
SIPRNET	Secure Internet Protocol Router Network
SIRST	Surveillance Infra-Red Search & Track
SIS	Security Isolation Segment
SIST	Serviceable In-Service Time
SITREP	Situation Report
Skeet	BLU-108 submunition; part of SFW
Skipper I	Unpowered Skipper LGB (never produced)
Skipper II	AGM-123 boosted LGB; no longer in service
SLAM	AGM-84E Standoff Land Attack Missile (a Harpoon variant)
SLAM-ER	AGM-84H Standoff Land Attack Missile–Expanded Response
SLAT	AOM-127A Supersonic Low Altitude Target
SLATS	Strike Leader Attack Training Syllabus. Curriculum offered at the Naval Strike Warfare Center, Fallon NS, NV addressing integrated air strike, and given to deploying CV air wings.
SLBM	Sea-Launched Ballistic Missile
SLCM	Sea Launched Cruise Missile (Tomahawk)
SLEP	Service Life Extension Program
SLI	Strip Launch Interceptor
SLIP	Serial Line Internet Protocol
SLOC	Sea Line of Communications/commerce
SM	Standard Missile (SM-1, SM-2; also RIM-66, RIM-67)
SMAC	Scene Matching Area Correlation guidance mode
SMART	Slot-ring Mixer Array Receiver Technology
SMDS	Switched multi-megabit data service. Connectionless service offered by local telephone carriers. GCN 2/6/95.
SME	Subject Matter Expert
Smokeye	CBU-88 smoke munition
SMS	Stores Management System
SMTP	Simple Mail Transfer Protocol
Snakeye	Retarded Mk 82 bomb
SNMP	Simple Network Management Protocol
SNTK	Special Need To Know; replaced by LimDis (security term)
SOA	Speed of Advance/ Sustained Operations Ashore
SOAD	Standoff Outside Area Defenses; long range
SOC	Squadron Operations Center (AF)

SOCEUR	Special Operations Command Europe
SOCID	Standoff Outside Close-in Defenses
SOCOM	Special Operations Command
SOCRATES	Special Operations Command Research, Analysis and Threat Evaluation System. Provides automated intelligence and imagery support to USSOCOM and USCENTCOM, and projected for other units.
SOE	Schedule of Events
SOF	Special Operations Force
SOFATS	SOF Aircrew Training System
SOFPARS	SOF Planning and Rehearsal System. Development of 3rd-generation AMPS, replacing minicamp hardware.
SOI	Signals of Interest
SOJ	Standoff Jammer
SON	Statement of Need
SONET	Synchronous Optical Network. Fiber optics hierarchical communication standard. Electrical form called STS-1, optical form called OC-1. Basic building block is 90x9 bytes, at 8000 Hz = 51.84 Mbps. Hierarchy of rates: OC-3 (155.52 Mbps); OC-12 (622.08 Mbps); OC-48 (2.448 Gbps).
SOPD	Stand-Off Point Defense
SORD	System Operational Requirements Document
Sortie	In air operations, an operational flight by one aircraft (JCS Pub 1-02)
SOSUS	Sound Surveillance System
SOTD	Standoff Outside Theater Defenses (very long range)
SOW	Statement of Work
SPA	Self Propelled Artillery /Strike Planning Archive
SPARC	Scalable Processor Architecture. A RISC CPU family invented by Sun Inc.
Sparrow	AIM-7 air-to-air missile
SPD	System Performance Document
Speakeasy	A newly planned Joint Service radio, which uses programmable waveforms (up to 27) for interoperability with other systems and services.
SPEAR	Strike Projection Evaluation and Anti-air warfare Research. Branch of ONI dedicated to support Navy TACAIR in understanding political/military situation in deployed areas.
Spec	Specification
SPECAT	Special Category. General description for a special access or codeword classified program.
Special Operations Warfare:	A component or area of warfare conducted by specially organized, trained and equipped DoD forces operating against strategic or tactical targets in pursuit of national military, political, economic or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations, or they may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible. (Joint Pub 1-02)
Special Reconnaissance:	Reconnaissance and surveillance actions conducted by special operations forces to obtain or verify, by visual observation or other collection methods, information concerning the capabilities, intentions and activities of an actual or potential enemy or to secure data concerning the meteorological, hydrographic or geographic characteristics of a particular area. It includes target acquisition, area assessment and post-strike reconnaissance.
SPECINT	Speculation Intelligence
Speckled Trout	A USAF C-135 aircraft modified to receive satellite feeds that can be instantly broadcast to tactical elements.
SPF	Strike Planning Folder
Spikes	Term used to describe the sharply defined radar cross-sectional components of a given target as a function of aspect angle, due to specular and retroreflector features on it.

SPINS	Special Instructions
SPIRITS	Spectral In-band Radiometric Imaging of Targets and Scenes
Split-S	Evasive maneuver for tactical aircraft. Vertical 180 where only positive G's are pulled.
SPO	System Program Office
SPOT	Système Pour l'Observation de la Terre. A commercial French EO observation satellite.
SPS	Standard Positioning Service. The normal positioning accuracy provided by the C/A code; available to all GPS users.
SQL	Standard Query Language
SRAM	AGM-69 Short Range Attack Missile (nuclear)
SRAM II	AGM-131; replacement for SRAM (nuclear)
SRAM-T	Tactical SRAM (nuclear)
SRASM	"Short-Range ASM" (tech base concept)
SRR	System Requirements Review
SRTM	Shuttle Radar Topography Mission
SSA	Software Support Activity /Source Selection Authority
SSB	Ballistic Missile Submarine /Single Side Band
SSB	Small Smart Bomb
SSBN	Ballistic Missile Submarine, nuclear powered
SSC(O)	Small Scale Contingency (Operations)
SSCN	Secure Survivable Communications Network. An experimental distributed network sponsored by the JDL, using ATM with 155 Mbps throughput rates. Six nodes comprising network are: AF Rome Lab, Army CECOM, Navy NCCOSC, JITC, AF 480th AIG, and GTE Govt Systems.
SSEB	Source Selection Evaluation Board
SSES	Ship's Signal Exploitation Space
SSG	Strategic Studies Group
SSG	Guided Missile Attack Submarine
SSGN	Guided Missile Attack Submarine, nuclear powered
SSIXS	Submarine Satellite Information Exchange System. A means to exchange 4800 bps text messages from shore-based submarine authorities to submarines, and between submarines.
SSM	Surface-to-Surface Missile
SSN	Attack Submarine, nuclear powered
SST	Smart Submunition Technology
Sta.	Station
STACCS	Standard Theater Army Command and Control System. The theater level data processing support system.
STANAG	Standardization Agreement (NATO)
Standard ARM	AGM-78 ARM (Standard Missile variant; out of service)
Standard Missile	SM-l, SM-2, RIM-66, RIM-67 missile family
STAP	Space Time Adaptive Processing
STAR	System Threat Assessment Report/Seeker Test and Refinement
STARLOS	SAR Target Recognition and Location System
STARS	Stored Terrain and Reconnaissance System. A digital map and situational display system found on the AFTI F-16.
STATE	US State Department
STD	Standard (as in MIL-STD-xxxx)
Std Msl	see Standard Missile
STDN	Secure Tactical Data Network Demonstration Program
STEP	Standard Tactical Entry Point
STG	Seasonal Target Graphic
STING	Super Hornet Targeting Image INterpretinG system

Stinger	FIM-92 shoulder-fired surface-to-air missile
STK	Strike Warfare (see also STW)
STM	Supersonic Tactical Missile (cancelled); see also ALVRJ
STM	Synchronous Transfer Mode
STOL	Short Takeoff and Landing aircraft
STOM	Ship-to-Objective Maneuver
STOVL	Short Take-Off Vertical Landing
STOW(E)	Synthetic Theater Of Warfare (Europe). The next major ARPA simulation effort after Warbreaker. The first demonstration will be of the European scenario, in FY95.
STR	Software Trouble Report
Strategic Bombing:	The bombing of a selected target or targets vital to the war-making capacity of a nation. (AF Dictionary)
STRG	Science and Technology Requirements Guidance
Strike	1. An attack which is intended to inflict damage on, seize, or destroy an objective. (from JCS Pub 1 dtd 1 Apr 1984); an attack upon a surface target (AF Dictionary). 2. The attack by one or more aircraft, missiles, or a combination of both against a target or target area. Originating from TACAIR usage, as in "Strike Group" which distinguishes actual attack aircraft from "Support Units" such as fighter escort, tankers, defense suppressors, etc. Strike is now used generically; e.g., TACAIR Strike, Tomahawk Strike, or plain Strike, as in offensive action or Strike Warfare.
Strike U	Familiar name for the Naval Strike Warfare Center at Fallon NAS, NV.
Stripping	A term used by TACAIR aviators to describe breaking off from a pre-planned mission flight path in order to deal with contingencies. The notion is for one or a few aircraft breaking off from an otherwise large sortie group.
STS-x	Synchronous Transport Signal at Level x. Electrical counterpart to OC-x in SONET.
STU-...n	Secure Telephone Unit - ... (e.g., STU-III)
STW	Strike Warfare. The destruction or neutralization of enemy targets ashore through the use of conventional or nuclear weapons. This includes, but is not limited to, targets assigned to strategic nuclear forces, building yards, and operating bases from which an enemy is capable of conducting or supporting air, surface, or subsurface operations against the U.S. or allied forces.
STWC	Strike Warfare Commander
SUAWACS	Soviet Airborne Warning and Control System
SUBRW	UUM-44 Sub-to-Sub ASW weapon
SUCAP	Surface Combat Air Patrol (i.e., antiship)
SUPPLOT	Supplemental Plot
Surface Warfare	A component or area of naval warfare in which enemy vessels operating on the surface of the ocean are engaged by friendly air, surface or submarine forces. Enemy vessels may be surface combatants, surfaced submarines, naval auxiliary vessels, or merchant shipping.
SURTASS	Surface Towed Array Surveillance System
Surveillance	The systematic observation of aerospace, surface, or sub-surface areas, places, persons, or things by visual, aural, electronic, photographic, or by other means. (from JCS Pub 1 dtd 1 Apr 1984)
Sustainment	Resource acquisition and management, and the development and maintenance of readiness for combat.
SUU-...	Stores Suspension and Release Unit
SUU-11	7.62mm aircraft gun pod
SUU-23	20mm aircraft gun pod
SUU-25	Flare dispenser
SUU-40	Flare dispenser
SUU-44	Flare dispenser
SWA	Southwest Asia
SWES	Strike Warfare Executive Seminar. See E-SLATS.

SWIC	Space Warfare and Intelligence Command. Located at Falcon AFB CO, the C3I site for parsing intelligence data to tactical platforms in STS demonstrations.
SWIP	Systems/Weapons Improvement Program (A-6)
SYDP	Six-Year Defense Plan (or Program)
SYERS	Senior Year Electro-optical Reconnaissance System. The EO imaging system on board the U2 surveillance aircraft.

T

T&E	Test & Evaluation
T1	A digital data rate normally associated with passing live video, 1.544 Mbps.
T3	A digital data rate of 44.7 Mbps
T3	TAMPS/TEAMS/TERPES
TAAF	Test, Analyze And Fix
TAC-x	Tactical Advanced Computer version x
TACAIR	Tactical Air operations or aircraft
TACAMO	Take Charge And Move Out
TACAN	Tactical Air Control and Navigation (system)
TACAWS	The Army Combined Arms Weapon System
TACC	Tactical Air Command Center. Provides the tactical air commander with communications, system processing, data correlation and displays needed to support planning and directing of overall air support. To be replaced with ATACC,
TACELINT	Tactical Electronic Intelligence
TACFIRE	Tactical Fire Direction System. The largest effort in the Automatic Data System for the Army in the Field (ADSAF). It is a computer-based fire direction system to be time-shared by several users at Corps, Division and Field Army level.
TACINTEL	Tactical Intelligence Information Exchange System . A computer-based message system for automatic receipt and transmission of SCI messages.
Tacit Rainbow	AGM-l36 loitering ARM / lethal decoy; cancelled
TACMAN	Tactical Manual
TACMS	Tactical Missile System (uses MLRS launcher)
TACNUC	Tactical Nuclear (weapon)
TACP	Tactical Air Control Party. Mobile ground controller for air support for Army. Subordinate to ASOC.
TACPRO	Tactical Procedure(s)
TACREP	Tactical Report
TACRON	Tactical Squadron
TACS	Theater Air Control System
Tactical	Of or pertaining to tactics, i.e., to the arranging, positioning, or maneuvering of forces in contact, or near contact, with the enemy so as to achieve an objective or objectives in an air campaign, air battle, or surface battle. (AF Dictionary)
TACTS	Tactical Aircrew Combat Training System
TAD	Theater Air Defense. All defensive measures designed to destroy attacking enemy aircraft or missiles in the earth's envelope of atmosphere, or to nullify or reduce the effectiveness of such attack, within a prescribed or self-designated geographic area and associated airspace, and normally falling under the operational control of a unified commander. (Joint Pub 1-02)
TADC	Tactical Air Direction Center

TADIL	Tactical Digital Information Link. Bit-oriented vice character-oriented or voice				
	TADIL-A	=	Link-11	HF,UHF	Surv/Wpn Ctl
	TADIL-B	=	Link-1, Link-11B	Wire,UHF	Surv/Wpn Ctl
	TADIL-C	=	Link-4A UHF	A/C Ctl	
	TADIL-J	=	Link-16	UHF(L_X)	F/C

TADIRCM Tactical Aircraft Directable InfraRed CounterMeasure System

TADIXS Tactical Data Information Exchange System

TADIXS-A A one-way, shore-to-ship nRT satellite link to transmit contact reports from FOSIFs to TFCC/FDDS & Tomahawk platforms, including submarines in OTH Gold format. This is a subsystem of the UHF FLTSATCOM command and control system.

TADIXS-B UHF (240 - 270 MHz) broadcast of national assets reports using TDMA protocol. Routing of data different than TRAP and is generally more timely. Operates at the genser SECRET level and is jam resistant, spread spectrum, and encrypted.

TADMUS Tactical Decision Making Under Stress

TAF Tactical Air Force

TAFIM Technical Architecture Framework for Information Management

TAG Technical Advisory Group

TAG Tracking Antenna Group

TAG(S) Target Aimpoint Graphic (Supplement)

TAGS Theater Air-Ground System

TALD Tactical Air Launched Decoy (non-lethal)

'Tally Ho' Visual on target.

Talon Command Refers to an Air Force TENCAP program. A set of demonstrations showing real and near-real time information dissemination from intelligence and national systems. It includes:

Project (Talon) Shield	DSP 3D and reporting chain to support TMD warning and airborne engagement response.
Project (Talon) Hook	A proof-of-concept effort to enhance the rescue of downed aircrews using GPS and standard military survival radios.

Talon Ready Refers to an Air Force TENCAP program. Using leading-edge technologies to facilitate the use of space resources for operational mission planners. It includes:

Project (Talon) Scene	Workstation for image exploitation and mission planning to support PGM weapons. Covers IR, vis, and SAR imagery from National, Theater and tactical sources.
Project (Talon) Spectrum	Correlation and fusing of Landsat, SPOT and national systems imagery for use by tactical and unit mission planners.
Project (Talon) Stamp	Linkage of national systems to automated mission planning.

Talon Shooter Refers to an Air Force TENCAP program. A set of demonstrations to enhance the situational awareness of aircrew by use of national and off-board information sources. Includes:

Project (Talon) Sword	Sensor-to-Shooter TENCAP equivalent to Navy Radiant Oak. Phase I demonstrated the engagement of a simulated hostile missile radar site using HARMs and targeting from national systems, and demonstrated realtime intelligence in the cockpit (RTIC).
Project Global Sword	Offshoot of Talon Sword, dealing with the sensor-to-shooter application of national assets, vice the specific tactical application of weapons on target.
Project (Talon) Lance	Use of a mini-computer on a combat aircraft to receive, process, correlate and display a variety of space and aircraft-derived sensor information.
Project (Talon) Zebra	Application of highly accurate imagery and GPS information for use with PGMs. May involve GRID.

Talon Night Refers to an Air Force TENCAP program. Development of small, high-technology, classified devices for Special Operations Forces and other national agencies.

Talon Vision	Refers to an Air Force TENCAP program. An ambitious program to "receive, process, correlate, fuse, manipulate and display all source data/imagery...and integrate information into existing and future operational warfighting systems." Development of a prototype testbed integrating both national and theater information, for a comprehensive battlefield picture.
Talon Touch	Refers to an Air Force TENCAP program. Maximizing the connectivity between space, national and theater systems with the operational warfighter.
Talon Spear	Refers to an Air Force TENCAP program. TENCAP support of Red Flag exercises at Nellis AFB.
Talos	RIM-8 SAM
TAMD	Theater Air Missile Defense
TAMMAC	Tactical Aircraft Moving Map Capability
TAMPS	Tactical Aircraft Mission Planning System. Mission planning and route analyzer in support of TACAIR power projection. Includes capabilities such as weapons loadout monitoring, radar predictions, etc.
TAN	Terrain Aided Navigation
TAOC	Tactical Air Operations Center. USMC center used for exercising C2 of air operations. Replaced by TAOM.
TAOM	Tactical Air Operations Module. USMC system used to manage the air traffic control, providing real-time C2 of all MAGTF air and surface-to-air missiles.
TAP	Technology Area Plans
TARA	Technical Area Review Assessments. Part of the DDR&E Defense S&T strategy. It reviews the quality and progress of programs, and document cross-Service relations and leverage in the S&T investment. This and the DTAP review the programs in 10 Technology areas (see DTAP).
TARCAP	Target Combat Patrol. Air superiority mission to develop or maintain a sanctuary for attack aircraft over the target area. (see BARCAP)
Target	1. A geographical area, complex, or installation planned for capture or destruction by military forces. 2. In intelligence usage, a country, area, installation, agency, or person against which intelligence operations are directed. 3. An area designated and numbered for future firing. 4. In gunfire support usage, an impact burst which hits the target. (from JCS Pub 1 dtd 1 Apr 1984)
Target Acquisition:	The detection, identification, and location of a target in sufficient detail to permit the effective employment of weapons. (from JCS Pub 1 dtd 1 Apr 1984)
Target Folders	The folders containing target intelligence and related materials prepared for planning and executing action against a specific target. (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
Target Prosecution:	The process of inflicting destructive damage on the target including search (if required), acquisition, engagement, and weapon delivery.
Targeting Process:	The standard military planning process by which stated objectives of a military action are translated into targets/aimpoints to be attacked, the amount of force/level of damage to be applied, and the delivery system to be used all determined within the context of available forces and their capabilities. The targeting process consists of six iterative phases (the results of the first three are quantified in the UTDB): 1. Objectives Definition—The development of specific strike objectives from the broader campaign objectives that are definable, require action, considered attainable with the established operations strategy/rules of engagement, and measurable to determine strike effectiveness; 2. Target Development—The systematic examination and evaluation of potential target systems and their components to determine those against which military action should be directed to achieve desired strike objectives; 3. Weaponeering—The assessment of available weapon delivery systems, quantity and specific type/mix of weapons required to achieve a specific type of level of damage to a given target considering specific weapon effects, weapon delivery accuracy, weapon reliability, target physical vulnerabilities, damage criteria, and performance probabilities; 4. Force Application—The development of a strike package nomination which matches available weapon system(s) to specific target(s) based on the most effective, economical, and operationally

	feasible achievement of the desired strike objectives. Packages are sent to appropriate decision-making authority for approval; 5. Execution Planning—The preparation for force execution of selected strike packages. Within the Tomahawk context, execution planning consists of "mission planning" and "employment planning." Mission planning consists of development of essential enroute and target/aimpoint data elements required to (1) allow the missile guidance set to accurately and reliably reach the target, and (2) give C^2 nodes sufficient knowledge of the mission attributes and requirements to plan for and carry out the strike with the highest degree of success. Employment planning uses the mission's specific C^2 information to develop a detailed operations/execution plan, ensuring that environmental, temporal, and spatial requirements are satisfied. Employment planning can range from simple one-mission/one-missile evolutions to complex, sequential events involving coordinated/integrated operations with multiple weapons systems; 6. Combat Assessment—Post attack examination of targets to determine effectiveness of weapons delivery, measure attainment of strike objective(s), and develop recommendations for further action.
Targeting	The process of selecting targets and matching the appropriate response to them taking account of operational requirements and capabilities. (JCS Pub 1-02)
Tarmac	A British expression for a paved apron or runway for aircraft. It is derived from the two words "tar" and "macadam." (J. Quick, *Dictionary of Military Terms,* McGraw-Hill 1973)
TARPS(DI/CD)	Tactical Air Reconnaissance Pod System (Digital Imaging/Completely Digital)
Tartar	SAM (see Standard Missile)
TARTS	Tactical Realtime Targeting System
TAS	True Airspeed
TASM	BGM-109 Tomahawk AntiShip Missile (sub-/ship-launched)
TBD	To Be Determined
TBIP	Tomahawk Baseline Improvement Program
TBM	Theater Ballistic Missile /Theater Battle Management
TBMCS	Theater Battle Management Core System. Joint system combining CIS, CTAPS and WCCS to give interoperable force level planning and coordination.
TCC	Tactical Command Complex
TCDL	Tactical Common Data Link. A datalink development for a family of CDL-compatible, low-cost, light weight, digital data links with the capability to support a wide range of ISR applications. Initially, it is focused on Predator and the Outrider UAVs. It will operate in the Ku band and be interoperable with the existing CDL at the 200 Kbps forward- and 10.71 Mbps return-link data rates. It may also be able to operate in other frequency bands with variable data rates. The emphasis will be on open systems architecture, COTS components, and industry-standard interfaces.
TCO	Tactical Combat Operations. Focal point of the MAGTF C2 network. Provides commander, staff, and subordinates automation to receive, fuse, display, and disseminate C2 information, for both planning and direction. Will use JMCIS.
TCP	Tactical Cryptologic Program
TCPED	Tasking, (Collection), Processing, Exploitation and Dissemination (System)
TCP/IP	Transmission Control Protocol/Internet Protocol
TCS	Time Critical Strike. A current Navy FNC S&T element. The TCS IPT has defined Time Critical Strike as power projection against Time Critical Targets through suppression, negation, or destruction. Time Critical Targets span the Tactical, Operational, and Strategic target set and can be found throughout the battlefield. Time Critical Targets (TCT) are characterized by immediate warfighting importance, compressed vulnerability windows and time-dependence values. These targets must be engaged across a wide range of operating conditions including Independent, Joint, and Combined operating environments. The FNC is defined along 6 enabling capabilities: EC-1 = Defeat Expeditionary/Urban Warfare Targets with Naval Fires (example, Troops, Vehicles, and Bunkers) EC-2 = Defeat Re-locatable Targets at Range (example, TBM TELs, CCM Batteries) EC-3 = Defeat Short Dwell Mobile Intermittently Emitting Targets at Range (example, Tactical SAM Batteries, IAD Radar)

EC-4 = Defeat Moving Targets at Range (example, Tanks, APVs, and Trucks)
EC-5 = Defeat Active Hard and Deeply Buried Targets at Range (example, TBM Storage Depots/Garrisons, C2 Bunker)

TCS	Tactical Control System. The software and hardware system to control present/future UAVs, and interfaces the dissemination of UAV imagery/data to 24 joint and Service C4I systems. This program under the aegis of the Joint Project Office for UAVs (JPO-UAV) in the Navy's PEO(CU). Although developed as a total package, the TCS will have the capability to be scaled to meet deployability or operator limitations. Its software is DII/COE compliant and operates on current Service hardware: Sun/SPARC (Air Force), CHS-II/SPARC-20 (Army/Marine Corps), and TAC-N (Navy). Scaleability permits the system to function at 5 discrete levels of TCS-to-UAV interaction. The 5 levels of ISR asset control include (each level includes functionality of lower levels):: 1: Receipt and transmission of secondary imagery/data 2: Direct receipt of imagery/data from UAV 3: Control of UAV payload 4: Control of UAV, less takeoff and landing 5: Full control of the UAV including takeoff and landing
TCT	Time Critical Target
TDA	Tactical Decision Aid
TDD	Target Data Descriptor /Target Detection Device
TDDS	Tactical Data Distribution System /Tomahawk Data Distribution System
TDDS	TRAP/TRE Data Dissemination System
TDI	Target Data Inventory
TDICAT	Target Data Inventory Category
TDM	Target Designation Module (LLDR)
TDM	Tactical Dissemination Module
TDMA	Time-Division Multiple-Access. A communications technique to allocate channels by assigning a time slot to each transmitter so that they can all use the same frequency (Sensors Mag 4/21/01).
TDN	Tactical Data Network
TDOP	Time Dilution of Precision
TDP	Technical Data Package /Tactical Data Processor
TDS	Tactical Data System
TDW	Tactical Dissemination Workstation
TEAMS	Tactical EA-6B Mission Support System. Provides mission planning for airborne electronic countermeasures; accepts post-mission information for correlation and display. Interfaces with TAMPS.
TECHAD	Technology Advisor
TECHINT	Technical Intelligence
TEG	Tactical Exploitation Group
TEL	Transporter-Erector-Launcher
TELAR	Transporter-Erector-Launcher and Radar
TEMP	Test & Evaluation Master Plan
TENCAP	Tactical Exploitation Of National Capabilities
TeNET	Theater Extension Network
TEP	Tactical ELINT Processor
TEPEE	Tomahawk Engagement Planning And Exercise Evaluation
TEPP	Tomahawk Employment Planning Package (see ETEPP)
TER	Triple Ejection Rack
TERCOM	Terrain Contour Matching. A matrix set of terrain elevation data describing a geographic area of the earth. This is compared to a measured profile of the terrain elevations directly beneath the Tomahawk's flight path in order to update the missile's position and velocity. TERCOM maps

usually occur in a TERCOM mapset, typically containing three TERCOM maps, located in close succession.

Terminal Maneuver:
A user-specified variation in the flight profile of the final leg of an aircraft or inflight weapon mission. This variation is for the purpose of enhancing damage expectancy upon the target.

TERPES Tactical Electronic Reconnaissance Processing & Evaluation System. AN/TSQ-90(V). Intelligence fusion of EA-6B ECM and ESM, and other intel sources to maintain TOBs and feeds MAGIS.

Terrier RIM-2 SAM (see Standard Missile)

TES Tactical Exploitation System

TESAR Tactical Endurance SAR

TESS(-N) Tactical Environmental Support System-Navy

TF/OA Terrain Following/Obstacle Avoidance

TFCC Tactical Flag Command Center

TFR Terrain Following Radar

TGIF Transportable Ground Intercept Facility

TGSM Terminally Guided Submunition

TGT Target

THAAD Theater High Altitude Area Defense

THT Threat

TI Target Intelligence

TIARA Tactical Intelligence and Related Activities. Intelligence resources not included in the NFIP. The program is managed by the SecDef through the Asst Sec Def for C^3I. They provide timely intelligence support primarily to military operations. TIARA funds represent the portions of the DOD budget devoted to tactical-level intelligence activities that respond to operational commanders' requirements to gather and interpret time-sensitive intel on foreign entities. One category of support is for organic intel support to military operations, and include activities of DMA, ARPA, and BMDO. The other category of support is mission specific defense-wide programs. Examples of these programs include TENCAP and TCP.

TIBS Tactical Information Broadcast Service. A UHF (225 - 400 MHz) data exchange system allowing up to 10 collection platforms to pass data in Link-16/JTIDS format to 240 unique field terminal addresses via satellite relay or LOS UHF broadcast (70-bit words at 2.4 - 19.2 kbps on 5 or 25 kHz channel), using dynamic TDMA (10-second frame). Target tracking reports are by exception, amplification and quality (at rates of 1, 2, 5, 10 seconds), and users can filter data based on geography and altitude, air/ground/surface target denotation, specific target/emitter, or emitter parametrics. Some limited query of the broadcast is possible. Theater assets supporting TIBS are RJ, AWACS, Senior Scout., FLTSATCOM. To be superseded by IBS.

TIES Tactical Image Exploitation System. A SOFATS exploitation tool.

TIGDL Tactical Interoperable Ground Data Link. A Common Data Link (CDL) interoperable surface terminal that provides the capability to receive sensor data from an airborne platform. The TIGDL is divided into two functional groupings, the Tracking Antenna Group (TAG) and the Control Processing Group (CPG)

TIGER Tactically Integrated Geographic Environment. A database mapping program tool to analyze geographic data needed to assist in locating, tracking, and destroying enemy threats. It was created by the Army Space and missile Defense Battle Lab, with support from BMDO's CINC TMD Coordination Cell program. It integrates COTS GIS software, blending imagery, spatial features, elevation terrain, and real-time data, combined with real-time tactical feeds. It can be hosted on any PC with Windows 95 or NT. Functional capabilities include area limitation and vehicle movement prediction, TIBS and TDDS live target track displays, field loading of NIMA vector and raster data, LOS/visibility analysis, and IPB.

TILV Target Interaction, Lethality and Vulnerability

TIMS Tactical Information Management System

TIPRS Tomahawk Inflight Position Reporting System

TIS	Tactical Input Segment (JSIPS)
TK	Talent-Keyhole
TLAM	BGM-109 Tomahawk Land Attack Missile
TLDHS	Target Location Designation and Handoff System. A man-portable, automated equipment for FO/FACs and other 3rd-party targeting personnel. The baseline system will be a target acquisition system, consisting of a handheld/tripod-mounted eyesafe laser rangefinder coupled with az/el angle sensors, and a protable computer with a GPS receiver; target coordinates are transmitted via formatted messages to the Fire Support Coordination agencies. The P^3I includes a laser target designator.
TLE	Target Location Error
TLM	Target Location Module (LLDR)
TLN	TTWCS/LAM FCS/NFCS
TLS	Tactical LADAR Seeker
TM	Target Materials /Telemetry
TMA	Tactical Movement Analyzer
TMD	USAF SUU-64 / SUU-65 Tactical Munitions Dispenser
TMMM	Tomahawk Multi-Mission Missile (a.k.a., Block IV)
TMPC	Theater Mission Planning Center
TMPCU	Tomahawk Mission Planning Center, Update
TMPS	Theatre Mission Planning System (for Tomahawk)
TMS	Track Management System
TnT	Tactical/non-Tactical. A concept of JMCIS'98 supported by Com 7th Flt, to merge both tactical and non-tactical functionality on the same network and PC station, instead of the overhead of keeping both elements separate. Today's COTS technology allows this.
TNT	Trinitrotoulene. 2,4,6 Trinitrotoluene (C7H5N3O6), one of the most stable of high explosives.
TOA	Time Of Arrival. The time of flight between some initial timing control point and a specified point on the route.
TOA	Total Obligational Authority
TOB	Tactical Order Of Battle
TOC	Tactical Operations Center
TOF	Time of Flight
Token Ring	Network protocol with throughput capability of 16 Mbps. GCN 2/6/95.
TOL	Total Quality Leadership
Tomahawk	BGM-/RGM-/UGM-109 cruise missile family
TOO	Target Of Opportunity
TOPART	Tomahawk-Predator Advanced Realtime Targeting
TOPSCENE	Tactical Operational Preview Scene. A mission rehearsal tool used in the Navy for previewing target areas in a CV's deployment. A target area scene is built up from DTED, photo, and key 3D cultural features in the regions of aimpoints. Aircrew can then "fly" their planned mission trajectories over the target area, or manipulate the perspective view of the target area. Deployed on CVs and supported by the Model Manager, Naval Strike Warfare Center, Fallon NV. S/W owned by Navy, hardware supplied by Loral Vought (customized Silicon Graphics).
TOR	Tentative Operational Requirement; old term
TOT	Time Over Target
TOW	BGM-71 Tube-launched Optically-tracked Wire-guided missile
TP	Thermally-Protected (bombs)
TPC	Tactical Pilotage Chart (1:500,00)
TPDF	Tactical Planning Data Format
TPED	Tasking, Processing, Exploitation, and Dissemination
TPG	Target Package Generator
TPN	Tactical Packet Network
TPS	Tomahawk Planning System

TPSA	TLAM Planning System Afloat
TQM	Total Quality Management
TR	see Tacit Rainbow, AGM-136
TR-1/U-2	COMINT collection aircraft. Remotes reports to TGIF for processing & relay to CONUS. Tied to TRAP broadcast.
Trackpoint	For seeker-based missile terminal planning, a reference point within a target scene defined by the reference production module from which all template measurements are defined. It is not necessarily a physical object in the reference scene. It is the point at which the seeker is 'staring' to keep all parts of the template(s) within the field of view during acquisition and tracking and is generally the center of the sensor's field of view. For certain templates such as a small target tracker, the trackpoint and the aimpoint may be collocated.
TRADOC	Training and Doctrine Command (Army)
TRAM	Target Recognition/Attack–Multisensor (A-6)
TRANSEC	Transmission Security
TRAP	Tactical Related Applications Broadcast. Takes global target detection and cueing information from national collectors analyzed and relayed through ground stations in broadcast mode via satellites for unit-level C^2I dissemination (256-bit words at 2.4 - 19.2 kbps on 5 or 25 kHz UHF (240 - 270 MHz) FLTSATCOM channels). While separate from TADIXS-B broadcasts, they share reports between them. Originally planned as prototype for TADIXS-B, but is now operational capability. Data is genser SECRET, and uses a simple TDMA protocol, with jam resistance. TRAP is being integrated into the TDDS, and eventually IBS.
TRAP	Tactical Recovery of Aircraft and Personnel/Arrested landing on aircraft carrier
TRE	Tactical Receive Equipment. AN/USQ-101(V)5. An all-service program to provide for the collection, processing, and broadcast, via UHF SATCOM downlink, highly accurate positional and parametric contact data (TADIXS-B & TRAP). The AN/USQ-101(V) is the equipment suite for RF reception, processing, and delivery of the data to user baseband equipment. TRE at 2400, 4800, or 9600 bps and can receive signals with or without forward error coding up to 19.2 kbps. The Air Force equivalent is Constant Source.
TREE	Transient Radiation Effects on Electronics
TRITAC	Tri-service TACtical
TRIX	Tactical Reconnaissance Intelligence Exchange System. A UHF tactical targeting data exchange network which can receive data from up to 5 sources (U-2R, EP-3/ES-3, Guardrail, etc.) and transmit them to up to 100 field-terminal addresses via airborne relay via 25 kHz channel @32 kbps (8-bit character or bit oriented messages). Meets NSA SCI accreditation requirements. UHF transmission 225 - 280 MHz, reception 320 - 400 MHz, full duplex with Have Quick II format.
TRL	Technology Readiness Level. A scale developed by NASA to determine the readiness of technologies to be acquired/produced. Readiness levels are measured along a scale of 1 to 9, defined as: *1. Basic principles observed/reported.* Scientific research begins to be translated into applied R&D. Examples might include paper studies of a technology's basic properties. *2. Concept/application formulated.* Invention begins, practical applications invented. The application is speculative and there is no supporting proof/detailed analyses. Examples still limited to paper studies. *3. Proof of concept analysis/experiment* Active R&D. Includes analytical/laboratory studies to validate analytical predictions of technology elements. Examples include components that are not yet integrated or representative. *4. Component/breadboard laboratory environment validation* Basic technological components are integrated for functional operation. This is "low fidelity" assessment compared to the eventual system. Examples include integration of "ad hoc" hardware in a laboratory. *5. Component/breadboard relevant environment validation*

	Fidelity of breadboard technology increases significantly. Basic technological components are integrated with realistic supporting elements for testing in a simulated environment. Examples include "high fidelity" laboratory integration of components. *6. System/subsystem prototype demo in relevant environment* Representative model/prototype system, which is well beyond breadboard level, tested in a relevant environment. Represents a major delta in a technology's demonstrated readiness. Examples include testing a prototype in a high fidelity laboratory environment or in simulated operational environment. *7. System prototype demo in operational environment* Prototype near or at planned operational system level. Requires demonstration of an actual system prototype in an operational environment, such as in an aircraft, vehicle or in space. Examples include testing the prototype in a test bed aircraft. *8. System completed/"flight qualified" through test and demo* Technology has been proven to work in its final form and under expected conditions. In almost all cases, this represents the end of system development. Examples include developmental system T&E in its intended weapon system to determine if it meets design specifications. *9. System "flight proven" in successful mission operations* Actual application of the technology in its final form and under mission conditions, such as those encountered in operational T&E. This is the end of the last "bug fixing" aspects of system development. Examples include system operational mission usage.
TRLG	Tactical Ring Laser Gyro
TS	Top Secret (security term)
TSAM	Threat Systems Analysis Module
TSAT	Tomahawk Stops the Attacking Troops (see TSTAR)
TSC	Tactical Support Center
TSCM	Tactical (Tomahawk/Theater) Strike Coordination Module/Manager. Part of the Navy's APS serving as a tool to coordinate TLAM, UAV and TACAIR strike plans.
TSDF	Time Slot Duty Factor
TSPI	Time Space Position Indicator
TSR	Time Slot Reallocation
TSRAM	Tactical SRAM (nuclear)
TSSAM	Tri-Service Stand-Off Attack Missile. AGM-137, a joint service (Air Force, Navy, with Army withdrawing) standoff missile. (cancelled)
TST	Time Sensitive Target
TSTAR	Tomahawk Stops the Attacking Regiments. A future use of TLAM armed with smart submunitions to be used against enemy armor assaults and forward resupply.
TT	Target Track mode
TTD	Tactical Terrain Database
TTDD (T2D2)	Tomahawk Technical Description Document
TTPs	Tactics, Techniques, and Procedures
TTR	Target Track Radar
TTT	Time To Target
TTWCS	Tactical Tomahawk Weapon Control System
TU	Tango Undorm; i.e., dead
TUAV	see Shadow 200.
TUT	Technology Upgrade to TEAMS
TVC	Thrust Vector Control
TVM	Track Via Missile
TWCS	Tomahawk Weapon Control System. Provides processing and control of targeting, engagement planning and launch control of the Tomahawk missile. To accomplish this, it also must keep a theater ocean surveillance data base and correlate contact reports from several systems. Interfaces to Command & Decision system on Aegis cruisers.

TWS	Tomahawk Weapon System. It embraces the missile, weapon control system, mission planning system, and associated functional support systems such as displays and tactical decision aids which assist operators, tacticians, and command decision makers with strike planning and weapon system employment.
TWS	Track-While-Scan
TYCOM	Type Commander

U

UART	Universal Asynchronous Receiver/Transmitter
UARV	Unmanned Air Reconnaissance Vehicle
UAV	Unmanned Air Vehicle
UCARS	UAV Common Automatic Recovery System
UCAV	Unmanned Combat Air Vehicle
UFO	UHF Follow-on. U.S. Navy communications satellite system (10 in full constellation) to replace the FLTSATCOM. Based on Hughes HS601 body-stabilized, three-axis platform. It contains 21 narrowband (5 kHz), 17 relay (25 kHz), and one fleet broadcast (25 kHz) channels. The last six satellites will also contain an EHF communications capability, with 11 channels that are distributed between an earth coverage beam and a steerable 5-degree spot beam. The EHF package will also be Milstar ground terminal compatible, and will have anti-jam telemetry, command, broadcast and fleet interconnectivity communications.
UGM- ...	Submarine-launched SSM
UGM- 84	Submarine-launched Harpoon antiship missile
UGM-109	Sub-launched Tomahawk SSM (see also BGM-109)
UGS	Unattended Ground Sensor
UHF	Ultra-High Frequency (300 MHz-3 GHz)
UHRR	Ultra-High Range Resolution
UIC	Unit Identification Code
Unicasting	A special case of multicasting which involves only one station.
Unified Commands:	USCINCPAC, USCINCEUR, etc.
UNREP	Underway Replenishment at sea
URE	User Range Error
URL	Uniform (Universal) Resource Locator. A draft standard for specifying an object on the Internet, such as a file or newsgroup. Used extensively on the worldwide web, in HTML documents to specify the target of a hyperlink.
USACOM	U.S. Atlantic Command. Responsibilities recently expanded giving it operational command of all military forces in the U.S. It will also develop joint training of forces for overseas duty, and train the joint task force commanders and their staffs.
USAF	United States Air Force
USASOC	US Army Special Operations Commands. Located at Ft. Bragg, NC.
USCINC	United States (Unified) Commander-In-Chief
USCINCFLT	United States (Component) Commander-In-Chief
USGS	U.S. Geological Survey
USI	User System Interface
USMC	United States Marine Corps
USMTF	US Message Text Formats. A plan was developed to achieve database interoperability among various data elements used throughout the military.
USN	United States Navy
USSB	U.S. Satellite Broadcasting (Corp.)
USSOCOM	US Special Operations Command. Located at Hurlburt Field, FL.
UTA	Unmanned Tactical Aircraft

UTDB	Universal Target Data Base (Tomahawk). The UTDB provides terminal area information necessary for the mission planning function to develop the set of Block III missile commands required to engage a specified target from a wide range of launch area and routing combinations. The UTDB entry provides the planning data necessary to plan automatically the entire terminal approach and attack maneuver to a target from a defined handover point. It contains, at a minimum, generic target templates, target area reference templates, ship templates, target aimpoint/track points, offset aim points, template reference point location and missile requirements, employment restrictions (environmental, time-of-day, etc.) and pre-weaponeered fuse timing. The developer of the UTDB entry will position a handover point as necessary for each planned approach azimuth. The mission planning function will develop an enroute segment which it joins with the UTDB's terminal area segment at the handover point to create a complete mission. The term UTDB is used to refer to both the entire data base and to a entry for a single target.
UTM	Universal Transverse Mercator
UTTR	Utah Test & Training Range
UUM-44	Subroc
UV Map	Urban Vector map. NIMA-produced 5K - 25K:1 scale maps.
UWB	Ultra-Wide Band. A spread spectrum technique to spread information over multiple gigahertz of bandwidth using pulse technology. Also known as nonsinusoidal communication technology, impulse radar, ground penetrating radar, impulse radio, and baseband pulse technology (Sensors Mag 4/21/01).
UXO	Unexploded Ordnance

V

#VA	TAMPS Common Mission Planning Core Segment
#VB	TAMPS Aircraft/Weapon Mission Planning Application Package Segment
V&V	Verification & Validation
VA	Medium Attack Squadron
VAQ	ECM Squadron
VAW	EW Squadron
VDOP	Vertical Dilution of Precision
VEP	Vertical Error Probable
VER	Variable Ejector Rack
VERTREP	Vertical Replenishment at sea
VF	Fighter Squadron
VFA	Strike Fighter Squadron
VFDR	Variable Flow Ducted Rocket
VFR	Visual Flight Rules (same as VMC)
VGAS	Vertical Gun for Advanced Ships. Becoming Advanced Gun System.
VHF	Very High Frequency (30-300 MHz)
VHSIC/MMIC	Very High Speed Integrated Circuit/ Monolithic Microwave Integrated Circuit
VID	Visual Identification
VIP	Validated Integration of Points
VITD	Vector Interim Terrain Data
VLA	Vertical Launch ASROC
VLDS	Very Large Data Storage
VLF	Very Low Frequency (3-30 kHz)
VLO	Very Low Observable
VLS	Vertical Launch System
VLSI	Very Large Scale Integration
VMAP	Vector Smart Map(?)

VMC	Visual Meteorological Conditions (same as VFR)
VME	Versatile Modular-European
VMF	A message format designed to support the exchange of digital data between combat units (including fire ;support information) with diverse needs for volume and detail of information using various communication media. This flexibility is achieved through the information variability of each message and by the use of message standards that are independent of the textual format of the message. Individual messages composed of data elements are adjusted in length to suit the information content of that particular message. Although bit-oriented, VMF can also accommodate charter-oriented message (COM) encoding. VMF is the primary messaging component of Army and Marine Corps Battlefield Digitization initiatives.
VMS	Vehicle Management System
VOR	VHF Omni-Range navigation system
VPF	Vector Product Format
VPK	Visually-Pleasing Kill ("CNN quality")
VPN	Voice Product Net
VRML	Virtual Reality Modeling Language
VS	Fixed-Wing ASW Squadron
VSAP	Vehicle Specific Application Package
VSAT	Very Small Aperture Terminal
VSD	Vertical Situation Display
VSTOL	Vertical/Short Takeoff and Landing aircraft
VTC	Video-Teleconferencing
VTOL	Vertical Takeoff and Landing aircraft
VTUAV	see Fire Scout UAV.

W

W33	nuclear warhead (13" artillery round)
W48	nuclear warhead (155mm artillery round)
W56	nuclear warhead (Minuteman 3)
W62	nuclear warhead (Minuteman 2)
W68	nuclear warhead (Poseidon C3)
W69	nuclear warhead (SRAM)
W70	nuclear warhead (Lance)
W76	nuclear warhead (Trident 1 C4)
W78	nuclear warhead (Minuteman 3)
W79	nuclear warhead, enhanced radiation (8' artillery round)
W80-0	nuclear warhead (Tomahawk TLAM-N)
W80-1	nuclear warhead (ALCM, ACM)
W87	nuclear warhead (MX)
W88	nuclear warhead (Trident 2 D5)
W89	nuclear warhead (SRAM II)
WAAS	Wide Area Augmentation System (FAA/GPS)
WAC/BE	World Aeronautical Chart/Base Encyclopedia. The catalogued data base of targets used primarily for strategic targets in the U.S.S.R., but now used to track military critical target areas around the world.
WAGE	Wide-Area GPS Enhancement. A method to derive more precise GPS positioning by means of including into the GPS broadcast, update corrections to the satellite parameters. This is being superseded by the Accuracy Improvement Initiative (see AII).
Walleye I	1100-lb class TV-guided glide weapon
Walleye II	2500-lb class TV-guided glide weapon

WAM	Wide Area Mine /Wide Area Messaging
WAN	Wide-Area Network
Warbreaker	ARPA effort in the mid-90s specifically addressing shortfalls from Desert Storm; namely, intermittent sensor availability, ambiguous target detection/classification/ identification, variable targeting accuracy, and response outside of enemy's weapon cycle time.
WARC	World Administrative Radio Conference
WARHORSE	Wide Area Reconnaissance Hyperspectral Overhead Realtime Surveillance Experiment
WARM	War Reserve Mode
Warrior	The generic term for soldier, sailor, airman, etc. In the C4IFTW context it more readily applies to someone in command (whether a whole Joint Task Force or a tank).
Warrior Pull	Capability for the warrior to poll the global C4I network for any desired information from any location, at any time. The information is provided to the warrior on time and tailored to the Warrior's needs.
Waypoint	Either the intersection of two straight-line segments of a route or one of the two end points of the route. Except for the two end points, a waypoint is a reference point for a turn; i.e., the latitude/longitude of the turn point if the vehicle was able to turn instantaneously. Since the vehicle cannot turn instantaneously, the waypoint is not overflown (unless the waypoint is for a zero-degree turn) as the vehicle flies an arc from one route segment's heading to the next route segment's heading using the intersection of the route segments (i.e., the waypoint) as a reference point.
WBS	Work Breakdown Structure
WCCS	Wing Command and Control System. Provides complete wing resource picture for sortie generation and execution.
WCMD	Wind Corrected Munition Dispenser. A tail-mounted inertial guidance kit for the Tactical Munitions Dispenser used to deliver SFWs, combined effects munitions, and Gator mines. It allows low-altitude munitions to be delivered with accuracy given a high altitude release, since the WCMD corrects for windage and approach angle, and allows the release platform to remain at medium to high altitude, above the weather and threats.
WCS	Weapon Control System. Used generically to denote either the Tomahawk Weapon Control System onboard surface ships or the Combat Control System onboard submarines, it consists of the computer system operator terminals and associated peripherals used to plan the launch and initial overwater legs of a Tomahawk route, to load the OFP and Mission Data into the missile's guidance system memory, to receive and apply mission data updates, and to perform its prescribed tasks of the missile/mission/OFP matching process.
WCU-...	Weapons Control Unit ...
WDB II	World Data Bank II
WDL	Weapon Data Link
WDT	Weapon Data Terminal (i.e., data link)
WDU-18/B	Harpoon (antiship) warhead; weighs 490 lbs total
WDU-24/B	Maverick warhead (AGM-65E/F/G); weighs 300 lbs total
WDU-32/B	Penguin warhead (reworked Bullpup warhead); weighs 250 lbs total
WDU-36/8	TLAM-C warhead (titanium case); weighs 685 lbs total
Weapon Delivery:	The total action required to locate and recognize the target, establish the necessary weapon release conditions, and maintain guidance to the target, if required, and the weapon release. (Air Force Dictionary)
Weaponeering	1. The process of determining the quantity of a specific type of weapon required to achieve a specified level of damage to a given target, considering target vulnerability, weapon effects, munition delivery errors, damage criteria, probability of kill, and weapon reliability. (Air Force Dictionary) 2. The assessment of available weapon delivery systems, quantity and specific type/mix of weapons required to achieve a specific type of level of damage to a given target considering specific weapon effects, weapon delivery accuracy, weapon reliability, target physical vulnerabilities, damage criteria, and performance probabilities. (see Targeting Process)

WEPTAC	Weapons and Tactics (simulator)
Weteye	Mk 116 chemical bomb
WEZ	Weapon Employment Zone
WFOV	Wide Field-Of-View
WGS	World Geodetic System (WGS 84)
WIA	Wounded In Action
WIN	Warfighter Information Network
WISDOM	Warfighting and Intelligence Systems Dictionary for Information Management
WMD	Weapons of Mass Destruction
WNINTEL	Warning Notice: Intelligence Sources & Methods Involved (security term)
WOC	Wing Operations Center. The implementor of ATOs, force readiness, detailed mission planning, execution of orders, and reporting of status.
WOU-35/8	Advanced Penetrator Warhead (APW, or I-800); weighs 780 lbs total
WPN	Weapon
WPS	Weapons Planning System
WPU-...	Weapons Propulsion Unit ...
WRA	Weapon Replaceable Assembly
WRL	Weapon Release Line
WRM	War Reserve Material
WRP	Weapons Release Point
WRU/WRA	Weapon Replaceable Unit/ Assembly
WSESRB	Weapon System Explosives Safety Review Board
WSO	Weapon System Officer
WSSA	Weapon System Support Activity
WTI	Weapons and Tactics Instructors
WVS	World Vector Shoreline
WWMCCS	Worldwide Military Command and Control System
WWW	World-Wide Web
WX	Weather
WYPT	Waypoint

X

X.25	Long-established protocols and message formats defining interface between a terminal and a packet switching network. GCN 2/6/95.
XCAS	On-Call Close Air Support. As opposed to pre-planned CAS.
XIDB	Extended Integrated Data Base
XIMER	Expendable Intelligent Multiple Ejector Rack
XINT	On-Call Interdiction
X-IST	Extended Intelligence Support Terminal
XML	Extendable Markup Language
XMIT	Transmit
XTP	eXpress Transfer Protocol

Y

Y-Code	Encrypted P-code GPS

Z

ZDR	Zone Distribution Rectangle
Zuni	5-inch FFAR

OTHER BITS OF MILITARY TRIVIA

Phonetic Alphabet

A	Alpha	Able	N	November	Nancy
B	Bravo	Baker	O	Oscar	
C	Charlie		P	Papa	
D	Delta	Dog	Q	Quebec	
E	Echo	Easy	R	Romeo	
F	Foxtrot	Fox	S	Sierra	
G	Golf	George	T	Tango	
H	Hotel		U	Uniform	
I	India		V	Victor	
J	Juliet		W	Whiskey	
K	Kilo		X	X-ray	
L	Lima		Y	Yankee	
M	Mike	Mary	Z	Zulu	

Radar Band Designations

HF	3-30 MHz	OTH Surveillance
VHF	30-300 MHz	very long range surveillance
UHF	300-1000 MHz	"
L	1 - 2 GHz	long range surveillance, GPS
S	2 - 4 GHz	terminal traffic control
C	4 - 8 GHz	airborne weather
X	9 - 12 GHz	mapping, missiles
Ku	12 - 18 GHz	"
K	18 - 27 GHz	water absorption band
Ka	27 - 40 GHz	very high resolution mapping, missiles
mmw	40 - 100+ GHz	experimental

Digital Communications Rates

ISDN	112-128 kbps
Primary Rate ISDN	1.5 Mbps
Frame Relay	56 kbps - 1.536 Mbps
T1/DS1	1.544 Mbps
DS2	6.312 Mbps
Ethernet	10 Mbps
Token Ring	4/16 Mbps
SMDS/DS3	34 Mbps
T3	44.7 Mbps
FDDI	100 Mbps
HIPPI	800/1600 Mbps
OC-N/STS-N	51.84 x N Mbps
SONET	51 –2400 Mbps

GPS-RELATED INFORMATION

Common Accuracy Measures

Dimensions	Accuracy Measure	Encompassing Probability	Typical Usage
1	rms	68%	vertical
2	CEP	50%	horizontal
2	rms	63-68%	horizontal
2	R95	95%	horizontal
2	2drms	95-98%	horizontal
3	rms	61-68%	3-D
3	SEP	50%	3-D

Theoretical Equivalent Accuracies (Multiply Original Times Entry to Get Desired Units)*

rms vertical	**CEP horizontal**	**rms horizontal**	**R95 horizontal**	**2drms horizontal**	**rms 3-D**	**SEP 3-D**	**<- desired original -v**
1	0.44	0.53	0.91	1.1	1.1	0.88	**rms vertical**
	1	1.2	2.1	2.4	2.5	2.0	**CEP**
		1	1.7	2.0	2.1	1.7	**rms horizontal**
			1	1.2	1.2	0.96	**R95 horizontal**
				1	1.1	0.85	**2drms horizontal**
					1	0.79	**rms 3-D**
						1	**SEP 3-D**

* Assuming Gaussian Error Distributions, (PDOP/HDOP) = 2.1, (VDOP/HDOP) = 1.9, and the horizontal error distribution is circular. Based on simulations between 66° latitude north and south. Reference—*GPS Accuracy: Lies, Damn Lies, and Statistics,* F. Diggelen, GPS World, Jan 98

USN NAVAIR/NAVSEA/SPAWAR PMs:

NAVAIR

PMA/PMW-156 Global Positioning System
PMA-202 Aircrew Systems
PMA-205 Aviation Training Systems
PMA-207 Support/Commercial Derivative Aircraft
PMA-209 Air Combat Electronics
PMA-213 Air Traffic Control and Landing Systems
PMA-222 Pgm mgr, Air
PMA-225 H-3/T-2 Aircraft
PMA-226 H-46 Aircraft
PMA-248 Tactical Training Ranges
PMA-251 Aircraft Launch and Recovery Equipment
PMA-260 Aviation Support Equipment

PEO(T)—Tactical Aircraft

PMA-231 C-2/E-2 Aircraft
PMA-233 Mission Planning Systems
PMA-234 A-6/EA-6 Aircraft
PMA-241 F-14 Aircraft
PMA-259 Air-to-Air Missile Systems
PMA-265 F/A-18 Strike Fighter
PMA-268 AMRAAM Weapon
PMA-272 Advanced Tactical Aircraft Protection

PEO(W)—Strike Weapons and Unmanned Aircraft

PMTS Tactical Systems
PMA-201 Conventional Strike Weapons
PMA-208 Aerial Targets and Decoys
PMA-242 Defense Suppression Systems
PMA-258 Standoff Missile Systems
PMA-263 Navy Unmanned Air Vehicles
PMA-280 Tomahawk All-Up Round
PMA-281 Cruise Missile Command and Control
PMA-282 Cruise Missile Weapon System

PEO(A)—Air Anti-Sub Warfare, Assault & Special Missions

PMA-257 A/V Weapon Systems
PMA-261 H-53 and Executive Transport Helicopters
PMA-264 Air Anti-Submarine Warfare Systems
PMA-271 E-6A/B Aircraft
PMA-273 Undergraduate Jet Flight Training
PMA-275 V-22 Aircraft
PMA-276 H-1 Aircraft
PMA-290 Maritime Patrol Aircraft
PMA-299 Multi-Mission Helicopters

NAVSEA

PEO(CLA)—CVs, Littoral Warfare & Aux Ships

PMS 312 Aircraft Carriers
PMS 317 LPD 17 Amphibious Transport Dock
PMS 325 Support Ships, Boats & Craft
PMS 333 Surface Ship Inactivation & Disposal
PMS 373 U.S. Coast Guard Icebreakers
PMS 377 Amphibious Warfare
PMS 378 CVX
PMS 385 Strategic Sealift
PMS 430 Combat Systems Training

PEO SS—Surface Strike

PMS 500 DD21
PMS 512 ATC
PMS 520 ALAM
PMS 500F Fleet Introduction & Life Cycle Support
PMS 500T Technical/Total Ship System Engineering
PMS529 Naval Surface Fire Support/ERGM/LASM/ NFCS

PEO EXW—Expeditionary Warfare

PMS 440 Program Management
PMS 444 Combat Systems Engineering
PMS 471 ESSM Development Sea Sparrow
PMS 472 RAM/Phalanx/CIWS

PEO MIW—Mine Warfare

PMS 210 Airborne Mine Countermeasures
PMS 303 MCM/MCS/MHC Ship Division
PMS 407 Surface Mine Warfare

PEO SUB—Submarines

SUB-X SSGN/Trident Conversion
PMS 350 Seawolf
PMS 401 Submarine Electronic Systems
PMS 425 Submarine Combat Systems
PMS 450 Virginia Class (SS774) Submarine

PEO TSC—Theater Surface Combatants

PMS 400B AEGIS Technical Division
PMS 400C CG Cruiser Conversion
PMS 400D DDG51 Destroyer Shipbuilding
PMS 410 Surface Launchers/VLS
PMS 422 Standard Missile
PMS 426 Radar Systems
PMS 451 Area TBMD
PMS 452 Navy Theater Wide
PMS 454 Naval Fires Network
PMS 456 Future Theater Air & Missile Defense
PMS 461 Ship Self Defense (SSDS/ACDS)
PMS 465 Cooperative Engagement (CEC)
PMS 467 Advanced Air DefensE AADC
PMS 468 Command, Control and Decision
PMS 473 Electronic Warfare (EW/AIEWS) & Decoys

PEO USW—Undersea Warfare

PMS 403 Unmanned Undersea Vehicle (UUV)
PMS 404 Undersea Weapons
PMS 411 USW Combat System For Surface Ship
PMS 415 Undersea Defensive Systems

SPAWAR

PD-13—Advanced Concepts & Technologies

PMW-131 Modeling and Simulation (Adv Sys)
PMW-132 Operational Experimental (Adv Sys)
PMW-133 Advanced Technology and Prototypes

PD-14—Space Technology Systems

PMW-141 Advanced Systems (Space)
PMW-142 Special Programs (Space)
PMW-143 R&D (Space)
PMW-146 Communications Satellites

PD-15—Information Support Systems

PMW-151 Naval Tactical Command Support Systems
PMW-152 DON Def Msg Sys & Nav Info Infrastructure
PMW-154 Theater Medical Information
PMW-157 GCCS-M/JMCIS
PMW-158 ADNS, Shipboard Networks
PMW-159 Advanced Tactical Data Link Systems

PD-16—Information Warfare Systems

PMW-161 Info Sys Security/Crypto Key Mgt
PMW-162 IW Tech Agent for CNO
PMW-163 Naval Combat Surv Sys/Combat DF/ CHBDL/BGPHES

PD-17—Communication Systems

PMW-173 Submarine Communications
PMW-176 Joint Maritime Communications Systems
PMW-179 Advanced Automated Tactical Comms

PD-18—ISR Systems

PMW-181 Fixed Surveillance Systems
PMW-182 Mobile Surveillance Systems
PMW-183 Advanced Deployable Systems
PMW-185 METOC Systems
PMW-187 Navigation Systems

DESCRIPTIONS OF FUTURE NAVAL CAPABILITIES (AS OF 2001)

1. Autonomous Operations. This FNC will enhance Naval and Marine mission capabilities through technologies to increase autonomy, performance, and affordability through uninhabited vehicle systems. Such robots, dispersed throughout the battlespace, will enable the Navy to operate effectively, and to do so at substantially reduced human cost. There are five enabling capabilities comprising this FNC:
EC-1. To provide access under all conditions to areas of responsibility through organic uninhabited systems that can be dynamically retasked to perform reconnaissance, surveillance, target acquisition, target designation, tactical oceanography, and battle damage assessment.
EC-2. To enable automated surveillance and reconnaissance in all environmental conditions through miniaturized, low energy sensors and payloads in unmanned systems.
EC-3. To enable automated surveillance and reconnaissance data processing, including sensor data fusion, to provide combat identification, automatic target recognition, target discrimination and onboard platform decision-making, and to reduce operator workload.
EC-4. To enable secure, jam-resistant network centric warfare at extended ranges through data relay and sensor-to-shooter-to-weapon connectivity.
EC-5. To minimize human intervention by automating operating functions, and by enabling the operations and interoperability of both manned and unmanned platforms.

2. Capable Manpower. This FNC intends to get the right warfighter into the right job, at the right time, with the right tools. Through affordable human-centered hardware and systems tuned to individual human capabilities, limitations, and needs, the Navy and Marines will be prepared to fight and win in an information-rich, distributed battlespace. Attracting, training, retaining, and enabling personnel to work up to their potential comprise the Navy's and Marine Corps' greatest challenges. There are three enabling capabilities comprising this FNC:
EC-1. To design affordable systems centered on the warfighter.
EC-2. To recruit and match Sailors and Marines to the right jobs at the right times.
EC-3. To equip Sailors and Marines with effective mission essential competencies.

3. Electric Warships and Combat Vehicles. This FNC will enable all-electric warship and combat vehicles to significantly improve efficiency, effectiveness, and survivability while simultaneously increasing design flexibility, reducing costs, and enhancing Sailors' and Marines' quality of service. There are three enabling capabilities comprising this FNC:
EC-1. To improve tactical endurance, by increasing the power (and its quality) available to mission-critical systems. It will increase the tactical efficiency of our warships and combat vehicles as well as their payload fraction.
EC-2. To support high-energy weapons and systems—providing power on demand for new pulsed power systems like the Electro-Mechanical Aircraft Launch System (EMALS), and future pulsed power weapons.
EC-3. To enhance survivability by the reduced susceptibility to damage electrical systems provide, and to take advantage of the increased fight-through damage capability those systems afford.

4. Knowledge Superiority and Assurance. This FNC lies at the heart of network-centric warfare, and provides the Sailors and Marines with rapid, accurate, and consistent situational understanding. Decision Support systems help warfighters find the best solution to rapidly changing problems. Information distribution and management over reliable, high data-rate, networked, wireless communications provide responsive, integrated, over-the-horizon command and control. There are four enabling capabilities:
EC-1. To provide warfighters with common, consistent knowledge—an easily understandable common tactical and operational picture.
EC-2. To provide dynamically managed, flexible, and interoperable bandwidth, with high capacity connectivity (through advanced apertures, phased arrays, and wireless networking) and enhanced network management.
EC-3. To provide tools for rapid threat assessment and response to time-critical threats.
EC-4. To provide all levels of command with tools for distributed, collaborative planning, rehearsal, and execution.

5. Littoral Antisubmarine Warfare. The submarine threat in the future the Navy is likely to face will not be an open ocean threat, but one that will confront our expeditionary forces in the littorals. And the boats that operate in the littorals will in all likelihood be small, extremely quiet, conventional submarines. This FNC intends to develop the capability to detect, track, classify, and neutralize subsurface systems—not only submarines, but also unmanned

underwater vehicles, mining systems, surveillance systems, and systems that foul waters or otherwise seek to deny access—in order to project power ashore. There are four enabling capabilities comprising this FNC:
EC-1. To detect, classify, localize, and track targets so we can engage them before they get close enough to release their own weapons against us.
EC-2. To be able to characterize the littoral battlespace for a common tactical and environmental picture.
EC-3. To be able to rapidly and covertly deploy and sustain surveillance systems for wide area search, detection, and cueing.
EC-4. To be able to engage or neutralize bottomed, surfaced, or low Doppler targets beyond their weapon release range.

6. Littoral Combat and Power Projection. This FNC enhances the forward present power projection capability of our Maritime service through the full spectrum of combat capability (a tailorable combined arms expeditionary ground force) and the flexibility of efficient logistic support, through movement of equipment, supplies, and personnel between sea-based platforms and operating areas based at sea, and without the need for large logistical establishments ashore. There are two enabling capabilities for this FNC:
EC-1. First priority: to be able to deploy from and reconstitute to the sea base, and to supply or resupply both the sea bas and maneuver units.
EC-2. Second priority: to provide tactical and logistical C2 within a common C4ISR architecture.

7. Missile Defense. This FNC is focused on defending our forces against both cruise and ballistic missiles which are increasingly available to potentially hostile entities. Cheaper than piloted aircraft and widely proliferated, missiles threaten both ships and forces ashore. An effective defense against them is vital to a Navy and Marine Corps that must be prepared to project power ashore from the sea rapidly, effectively, and securely. Most forces hostile to the United States most likely will choose to attack our forces in an asymmetrical way. Widely available and easy to use, surface attack missiles can have a strategic and political impact far surpassing their tactical effects. There is one enabling capability comprising this FNC:
EC-1. To develop technology to enable baseline overland missile defense, through fire control quality track, a single integrated air picture, composite combat identification, distributed weapons system control, and overland target intercept with a high probability of kill.

8. Organic Mine Countermeasures. This FNC focuses on the ability to clear mines from their operating areas—at sea, on the shore, and inland—without breaking operational tempo. Organic mine countermeasures—the ability to detect, characterize, and neutralize mines using a unit's own assets—are vital to the Navy and Marine Corps' doctrines Forward…From the Sea and Operational Maneuver from the Sea. Our adversaries will most likely not try to match our strengths, but will oppose us in asymmetrical and asynchronous ways—mines will be among their weapons of choice. There are three enabling capabilities comprising this FNC:
EC-1. To provide organic mine countermeasures that will enable us to execute OMFTS and STOM.
EC-2. To provide rapid, stand-off organic mine countermeasures to support the movement of surface and subsurface combatants throughout the Littoral Penetration Area.
EC-3. To provide rapidly deployable mine countermeasures to assure our access to the littoral area of operations.

9. Platform Protection. This FNC is focused on addressing threats from weapons, sensors, countermeasures, and stealth that Naval platforms routinely encounter, using organic means of self-defense. These self-defense capabilities must be provided in the context of a distributed, networked architecture, and deployed to fend off threats without permitting them to divert our forces from their mission. There are three enabling capabilities comprising this FNC:
EC-1. To win or avoid engagements by torpedoes and mines, including advanced influence mines, and the ability to detect and respond to wake and acoustic homing torpedoes.
EC-2. Too win or avoid engagements in the littorals by weapons and platforms, by asymmetric threats, and by non-lethal weapons.
EC-3. To resist and control damage from weapons while preserving our operational capability.

10. Time Critical Strike. This FNC focuses on the ability to strike tactical, operational, and strategic targets at the right moment in the battle. This requires Naval forces to develop means of striking targets in compressed vulnerability windows in all joint operations, in any environment, under all conditions. There are five enabling capabilities comprising this FNC:
EC-1. To be able to defeat expeditionary warfare targets with Naval fires.
EC-2. To be able to defeat relocatable targets at long ranges.
EC-3. To be able to defeat short dwell-time mobile targets at range.

EC-4. To be able to defeat moving targets at range.
EC-5. To be able to defeat hard and deeply buried targets at long ranges.

11. Total Ownership Cost Reduction. The goal of this FNC is to reduce—significantly—the cost acquisition, operation, and support of U.S. Maritime force systems by accurately identifying and predicting costs, and to maximize return on investment without compromising operability, environmental compliance, and relevance to the National Defense Strategy. There are three enabling capabilities comprising this FNC:
EC-1. To reduce maintenance requirements.
EC-2. To develop advanced materials, design and manufacturing processes that will reduce acquisition and lifecycle costs.
EC-3. To develop better cost estimating tools—predictive models that will help us determine how we can insert new technologies and processes that will lower costs.

12. Warfighter Protection. The aim of this FNC is to keep our Maritime forces from becoming battle or non-battle casualties, that is, to reduce morbidity and mortality in the battlespace. There are three enabling capabilities comprising this FNC:
EC-1. To improve combat casualty care and management.
EC-2. To prevent casualties.
EC-3. To preserve the health and enhance the fitness of the our ready forces.

ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS ONGOING ACTDS

Adaptive Course of Action (ACOA) (User Sponsors: U.S. Atlantic Command, U.S. Pacific Command), DTO F.24

Purpose: To demonstrate technology enablers to permit a change in joint planning and execution from a data-driven to an event-driven process, adaptive to rapidly changing situations, alternative execution options, and number of personnel on scene. ACOA handling will be achieved by (1) enhancing the operational picture to include focused information about alternative situations and execution options relative to the current plan; (2) providing automated management to keep track of several alternative COAs with checkpoints in the planning process to prevent planners from getting ahead of decision makers; (3) providing real-time reachback to experts and high-fidelity COA assessment; and (4) providing plan consistency throughout the Joint Planning and Execution Community (JPEC). FY99 PACOM demonstration reduced crisis planning from days to hours.

Airbase/Port Biological Detection (User Sponsors: U.S. Central Command, U.S. Pacific Command (U.S. Forces Korea)), DTO I.03

Purpose: To demonstrate an interim capability to automatically detect and identify in near-real time a biological attack on an airbase or port facility. This capability can potentially prevent mass casualties and maintain operational effectiveness at the facility. A modified Interim Biological Agent Detector (IBAD)-which includes an integrated, automated agent identification capability-has been developed and has successfully met ACTD objectives for timeliness and sensitivity during testing at Dugway Proving Ground against four biological agent simulants. This device represents a significant enhancement in capability, detection sensitivity, and time from detection to warning. Initial deployment of the ACTD sensor network will begin in late 1998 in the Republic of South Korea. A typical network will consist of 24 sensors configured to provide coverage of the entire base. The prototype system is operational in Southwest Asia.

Battle Damage Assessment (BDA) in the Joint Targeting Toolbox (User Sponsors: JCS/J2-T and U.S. Central Command), DTO B.29

Purpose: To provide the warfighters with a significant BDA capability by combining battle damage indicators, observed physical damage, and inferred functional damage into an accurate assessment of combat operations. This ACTD incorporates advanced technologies in artificial intelligence and decision aiding, especially evidential reasoning and case-based reasoning to provide an accurate assessment of combat operations. It will address the four technical aspects of BDA: data acquisition, results analysis, data aggregation, and visualization. The BDA application will be developed to run as an integral application in the Joint Targeting Toolbox (JTT). This ACTD will provide an accurate and timely assessment of the damage resulting from combat operations-currently a critical shortfall for the joint force commander. Integration with JTT will provide a theater/Joint Task Force (JTF) commander a seamless, synergistic BDA and targeting process to correct current limitations. This capability will contribute directly to significant operational improvements in both the planning and targeting communities.

Battlefield Awareness and Data Dissemination (BADD) (User Sponsor: U.S. Atlantic Command), DTO A.07

Purpose: To develop, install, and evaluate a prototype operational system that allows commanders to design their own information system; delivers to warfighters an accurate, timely, and consistent picture of the battlefield; and provides access to any transmission mechanisms and worldwide data repositories. Pre-BADD ACTD efforts were briefed to the Defense Science Board as a possible option to enhance intelligence dissemination in support of Operation Joint Endeavor. This resulted in the creation of the Bosnia Command and Control Augmentation (BC2A) currently operating in theater. This represents a significant enhancement in data dissemination capabilities using the Joint Broadcast System. Phase I of BADD was developed by DARPA, with CECOM as executive agent, and was focused on demonstration of key capabilities to disseminate data to battalion Tactical Operations Centers during the Task Force XXI Advanced Warfighting Experiment. Phase II is enhancing and maturing these systems to develop a pilot information management service in support of the Global Broadcast Service on UHF Follow-On (UFO) satellites 8, 9, and 10.

Chemical Add-on to Airbase/Port Biological Detection (User Sponsors: U.S. Central Command and U.S. Pacific Command), DTO I.05

Purpose: To (1) integrate a networked chemical warning capability using mature and available technologies to automatically detect and identify, in near-real time, chemical threats within the designated areas of operations associated with the Airbase/Port Biological Detection ACTD; (2) accelerate the demonstration of a Joint Warning and Reporting Network (JWARN); and (3) provide an interim capability to support the Commander in Chiefs (CINCs) for 2 years after the demonstration. The process of integrating the chemical and biological detection systems began in

FY97. Full operational testing with simulated chemical and biological attacks was conducted in FY98 at Dugway Proving Ground, Utah.

C4I for Coalition Warfare (User Sponsor: U.S. European Command), DTO A.23

Purpose: To develop a modular software package that will allow internationally standardized messages and replicated data to be passed between U.S. Army C2 systems and those of allied countries. Information will cover situational awareness data, plans and orders, and battlefield control features data. The Command and Control Systems Improvement Program (C2SIP) capability will be incrementally fielded into the Army's Maneuver Control System (MCS) over a 5-year period. C2SIP will exploit the work already carried out internationally in the Battlefield Interoperability Program (BIP), Quadrilateral Interoperability Program (QIP), and Army Tactical Command and Control Information System (ATCCIS) initiatives. The armies from Canada, France, Germany, Italy, and the United Kingdom are all involved in various aspects of the work and will field the various parts of the capability according to their own national system development plans.

Coherent Analytical Computing Environment (CACE) (User Sponsor: USPACOM), DTO F.25

Purpose: To significantly reduce Joint Strike Fighter (JSF) Program total cost of ownership by developing and evaluating a proof-of-concept analytical computing environment for decision support purposes and providing a marked improvement in the quantity, quality, timeliness, and utility of mission-critical logistics information available to the chain of command and supporting agencies and authorities. CACE will maximize the effective use of existing data resources and integrate new and missing key information in a challenging, "living laboratory," operational AV-8B squadron/group environment. The transition objectives will include operational assessment and competitive evaluation of emerging information technologies in an open-architecture commercial framework to inform and facilitate best decisions in JSF transition to engineering and manufacturing development (EMD). System safety and readiness will be enhanced while reducing life-cycle costs of ownership.

Common Spectral MASINT Exploitation (COSMEC) (User Sponsors: USEUCOM/USPACOM), DTO M.11

Purpose: To demonstrate COSMEC, end to end, to an operational user, showing the tactical utility of MASINT spectral analysis to the warfighter. This ACTD will establish COSMEC's ability to support the Joint Vision 2010 mission areas of Information Superiority and Combat Identification, as well as supporting specific operational requirements. It will provide processing and exploitation capability to analysts in preparation for government and commercial multi/hyperspectral collection platforms. COSMEC supports both tactical and strategic intelligence using state-of-the-art MASINT processing and exploitation algorithms. These algorithms will enhance the U.S. spectral data exploitation capability. COSMEC has the ability to support a variety of operational requirements, including detection and ID of camouflage and vehicles, search and rescue, terrain characterization and mapping, beach route preparation, submarine detection, and detection of chemical/biological weapons. COSMEC will provide operational units with the capability to exploit data from existing and planned spectral sensors like the Land Remote Sensing Satellite (LANDSAT), Satellite Pour d'Observation de la Terra (SPOT), Senior Year Reconnaissance System Preplanned Product Improvement (SYERS P3I), Hyperspectral Digital Imagery Collection Experiment (HYDICE), Spectrally Enhanced Broad-band Array Spectrographic System (SEBASS), Moving Target Indicator (MTI), and Littoral Airborne Sensor Hyperspectral (LASH). The modular design of COSMEC will simplify the process of updating the program with new algorithms or sensors, such as Warfighter and Naval Earth Map Observer (NEMO). This demonstration of COSMEC to an operational unit will establish the ability of multi/hyperspectral analysis to support search and rescue or camouflage detection in a combat-oriented mission. COSMEC's user-friendly interface and extensible architecture make it a versatile and useful tool for the warfighter.

Compact Environmental Anomaly Sensor II (CEASE II) (User Sponsor: AFSPACECOM), DTO A.29

Purpose: Develop a miniaturized environmental sensor, weighing approximately 3 pounds and having a size of less than 4 cubic inches, for integration on a critical satellite system for launch into geosynchronous orbit prior to Solar Max. CEASE II will maximize the availability of the space system to the warfighter. It will provide warnings of dangerous space environment conditions to allow for safe spacecraft operations and provide environmental data to speed anomaly resolution. It will also reduce satellite downtime and reduce user impact from satellite malfunctions. CEASE will improve the ability to rule out hostile actions. The information from CEASE should permit the satellite operator to "safe" the satellite during solar storms and to quickly identify space environmental sources for spacecraft anomaly resolutions and to reduce downtime. In addition, CEASE will develop a concept of operations that utilizes data provided by the CEASE sensor and other sources to improve the availability of military satellites for mission tasks.

Counterproliferation I (User Sponsor: U.S. European Command with participation from U.S. Atlantic Command, U.S. Strategic Command, U.S. Pacific Command, and U.S. Special Operations Command), DTO J.03

Purpose: To develop, integrate, demonstrate, and deliver to warfighters a militarily ready capability to characterize, destroy, and disrupt fixed nuclear, biological, and chemical (NBC) facilities and minimize collateral effects. The program will deliver an end-to-end system of sensors, target planning systems, and advanced weapons to improve warfighting capabilities against NBC targets. USEUCOM is the operational sponsor. Phase I consisted of a series of attacks on earth-mounded concrete masonry simulated biological storage facilities. Phase I was completed in February 1997 with the successful demonstration of a target attack planning and collateral effects prediction system, and the Hard Target Smart Fuze (HTSF). An interim demonstration series called Dipole Tiger (DT) was conducted in response to the sponsor's need to understand the baseline capability of current weapons to attack an above-ground, soft, chemical production facility while minimizing collateral effects. The DT tests highlighted the need to keep weapon fragmentation patterns away from agent storage vessels. Phase II will consist of a series of attacks on a hardened, reinforced concrete facility with a burster slab protecting a simulated chemical weapon production capability. Sensors, target planning tools, and advanced weapon systems were demonstrated during the final demonstration testing, conducted from January through July 1998. Current USAF, USN, and USSOCOM procurement plans include 2,140 proven Counterproliferation I subsystems.

Counterproliferation II (User Sponsor: U.S. European Command), DTO J.04

Purpose: To develop, integrate, demonstrate, and effect the transition to the warfighters of a militarily ready capability to deny, disrupt, or defeat a potential adversary's NBC-related facilities while minimizing the potential for collateral effects and providing more reliable bomb damage and collateral effects assessments. Top-level driving requirements include an effective high-confidence planning process; accurate prediction, control, and assessment of collateral effects; and prompt response and reliable standoff kill. While the CP I ACTD will continue to improve CP counterforce capabilities, the CP II ACTD will broaden the range of attack options available to commanders and reduce risks associated with the CP counterforce mission. Three operational demonstration series are planned over the period of FY99-02 to provide the sponsor and participating commands with opportunities to assess the operational utility of select technology component capabilities.

Extending the Littoral Battlespace (ELB) (User Sponsor: Commander in Chief, U.S. Pacific Command), DTO M.02

Purpose: To exploit the potential of mature and emergent technological capabilities to provide theater-wide situational awareness, sensor networks, effective remote fires, and a robust interconnected information infrastructure. This ACTD is a concept-based demonstration to enhance joint expeditionary warfare capabilities for the next century, complementing the Chairman of the Joint Chiefs of Staff's vision in the areas of Information Superiority, Precision Engagement, Dominant Maneuver, and Focused Logistics. FY98 was devoted to planning, systems engineering and integration, long-lead preparation for the systems demonstration in FY99, and integrated feasibility demonstrations of candidate technical solutions to the technical challenges of the system. FY00 will be devoted to refining open system architecture and preparing for Demo II in FY00.

Force Medical Protection/Dosimeter (User Sponsors: USCENTCOM/USSOCOM), DTO L.12

Purpose: To develop an individually worn dosimeter that can continuously measure and archive exposure levels of chemical and biological warfare agents. The first phase of the development will emphasize collection and archiving of exposure to chemical agents using passive sampling methodology. Phase II will include real-time analysis to warn the wearer of an immediate chemical hazard and will trap biological pathogens for later analysis. This ACTD will improve detection and identification capabilities and will provide greater awareness of immediate chemical exposure risk, more precise identification of exposure, and an accurate count of individual or multiple doses, which will result in improved situational awareness, treatment, and recordkeeping. Additional payoffs will include the ability to perform real-time analysis of agents, communication of exposure information to command centers, and increased battlefield awareness and intelligence. This ACTD leverages activities in the Terrorist Chemical/Biological Countermeasures program and DARPA efforts in pathogen detection and identification.

High-Altitude Endurance Unmanned Aerial Vehicle (HAE UAV) (User Sponsor: U.S. Atlantic Command), DTO A.10

Purpose: To address the military utility of an HAE UAV reconnaissance and surveillance capability at an air vehicle flyaway price of $10 million. Two classes of air vehicles are being developed: a conventional design (Global Hawk) and a low-observable (DarkStar) design. Global Hawk has completed ten successful airworthiness test flights for a total of over 50 hours, and has flown eight times at operationally representative altitudes (60,000 feet). DarkStar resumed flight testing since its April 1996 crash; the air vehicle flew five times for a total of 6.1 hours. DarkStar was subsequently discontinued as part of the ACTD. Global Hawk airworthiness and sensor test flights will continue in preparation for participation in the upcoming operational demonstrations.

High-Power Microwave (HPM) (User Sponsor: U.S. European Command), DTO H.11

Purpose: To develop and demonstrate HPM technology to disrupt, degrade, or destroy electronics in specific information operations scenarios. In conjunction with development of a CONOPS, a microwave system will be integrated into a suitable delivery platform and transported to a realistic site for demonstration of capabilities.

HUMINT Intelligence and Counterintelligence Support Tools (User Sponsors: (USSOCOM/DIA), DTO A.31

Purpose: To demonstrate targeting, collection, and dissemination technology, information management tools, and systems to support strategic, operational, and tactical HUMINT collectors and counterintelligence forces. The emphasis will be placed on modification, adaptation, and integration of existing capabilities (commercial and government off-the-shelf) versus research and development of new technology. Additionally, the ACTD will provide a mechanism to address tactics, techniques, and procedures and doctrinal issues based on the military utility of the deliverables. It will also provide improved capabilities for targeting (sources and facilities), for overt and sensitive collection, and for dissemination of information. This ACTD has a 5-year timeframe involving 3 years (FY99-01) of integration and demonstration and 2 years (FY02-03) of leave-behind support and sustainment.

Information Assurance: Automated Intrusion Detection Environment (IA:AIDE) (User Sponsor: U.S. Strategic Command), DTO A.26

Purpose: To create an architecture for the detection, sharing, integration, and analysis of information warfare (IW) attacks. This architecture will incorporate current and maturing intrusion sensing tools in conjunction with expert systems technology for the management of complex distributed systems. IA:AIDE will correlate intrusion events at local agency, CINC, and joint command levels to tighten the detection grid and increase the success of identifying the IW threats. It will allow local agencies to improve their security posture, permit regional commands to identify distributed attacks, provide a large view of the threat to DoD-wide systems, and allow for a global response to an IW threat by sharing information with appropriate military, law enforcement, intelligence, or operations agencies. FY99 ACTD efforts will focus primarily on integration of multiple sensors and display (visualization) of the associated data.

Information Operations Planning Tool (IOPT) (User Sponsor: U.S. Central Command), DTO A.25

Purpose: To demonstrate how information operations (IO) planning, modeling, and analysis tools can aid in the effective prosecution of a CINC's battle objectives. These automated tools will provide capabilities supporting the planning, development, synchronization, deconfliction, and management of an integrated IO campaign involving HQ Central Command's J3 staff and the CINC components. The ACTD will also provide the modeling and analysis tools supporting Integrated Air Defense System (IADS) target recommendation development aligned with CINC IO taskings. In FY98, the IOPT was demonstrated and evaluated for an optional 2-year interim capability. Included in this evaluation is an option for an FY99 demonstration to support the transition of select, proven technologies from the IOPT into acquisition and fielding.

Integrated Collection Management (ICM) (User Sponsor: U.S. Atlantic Command), DTO A.05

Purpose: To develop and demonstrate a significant new capability for a Joint Force Commander to take diverse national, theater, and tactical sensors and dynamically focus them as a joint force surveillance system-of-systems. The ICM tools will interface with existing and developing collection management tools. The program will significantly improve the ability for CINCs, commanders of Joint Task Forces, and their component commanders to use their own, and higher echelon, shared sensors in coordinated (cross-cued) and cooperative (simultaneous) collection strategies against time-critical targets and for force protection. Engineering design reviews for Phase I were held in FY97. Prototype design review was completed, and implementation and initial

testing commenced, early in FY98. Site survey for initial test, initial user training, development of demonstration concept of operations, C2 definition, and test/demonstration design will be completed in early spring of 1998.

Joint Advanced Health and Usage Monitoring System (JAHUMS) (User Sponsor: N/A), DTO F.18

The JAHUMS ACTD is a multiservice demonstration and evaluation of an advanced helicopter health and usage monitoring system. The primary thrust of the ACTD is to demonstrate and document-in a controlled, multiaircraft environment-significant improvements in helicopter safety, reliability, operational availability, and return on investment through the use of emerging health and usage monitoring technologies and the judicious use of open systems standards and architectures. The JAHUMS ACTD began in 1997 and extends through early 2001, with interim capability continuing through the latter half of 2001.

Joint Biological Remote Early Warning System (JBREWS) (User Sponsor: U.S. European Command), DTO I.02

Purpose: To evaluate the military utility of a biological early warning capability that allows an increased decision cycle to warn, report, and protect deployed forces. The ACTD provides the sponsoring CINC an interim, transportable capability to detect and warn forces that may have been exposed to biological warfare (BW) agents, and support that capability for 2 years. Additionally, the ACTD will demonstrate the C2 interoperability and connectivity necessary to perform automated warning and reporting of a biological attack against a maneuver force. The JBREWS ACTD will provide the first joint service capability for biological remote early warning across the battlespace. Initial deployment of the sensor network will begin in late 1999 in the EUCOM area of operations.

Joint Continuous Strike Environment (JCSE) (User Sponsor: U.S. European Command), DTO B.07

Purpose: To develop and demonstrate software that will augment and advance service, joint, and combined fire support systems. During the course of the ACTD, JCSE functionality will be demonstrated in a series of joint and combined exercises employing deep-strike assets from all services and selected allied assets against time-sensitive surface targets (TSSTs), which are defined as high-payoff vehicles, force groupings, and fixed-facility complexes that must be attacked inside cycle times. Cycle times are consistently achievable through the current Joint Targeting Process. JCSE will take advantage of existing but untapped potential for servicing TSSTs to shunt and accelerate information along the sensor-to-shooter pathways, enabling a Joint Force Commander (JFC) to hold TSSTs at risk without disrupting other aspects of his campaign plan. JCSE provides four capabilities: (1) automated target prioritization, (2) continuous weapon availability monitoring, (3) optimized weapon-target pairing, and (4) near-real-time airspace deconfliction.

Joint Logistics (User Sponsors: U.S. Pacific Command, U.S. Central Command), DTO F.19

Purpose: To provide the users (CINCs and commanders, JTF) with the capability to rapidly plan and execute more responsive and efficient logistics support to military operations. A prototype network of workstations and commercial technologies has been developed and deployed to provide state-of-the-art planning tools, coupled with asset visibility, for Operation Joint Endeavor. This prototype system is the foundation for advanced capabilities being developed by the Defense Advanced Research Projects Agency (DARPA), the services, and other logistics agencies.

Joint Medical Operations-Telemedicine (JMO-T) (User Sponsor: USPACOM), DTO F.27

Purpose: To provide CINCs and JTF commanders the capability to overcome time, distance, and organizational obstacles to ensure high-quality, cost-effective joint health support in austere theaters and during nonlinear operations. The technology being developed under the JMO-T ACTD will enhance effectiveness of health care and situational awareness forward of the theater hospital and demonstrate joint medical interoperability across JTF component command medical elements. It will also provide a standard, deployable force package that (1) improves forward diagnosis and treatment capability, reduces combatant force attrition, improves return-to-duty rates, and minimizes medical evacuation requirements; (2) establishes and maintains the medical tactical communications network that enhances collaborative tactical medical decisionmaking; (3) provides access to worldwide medical expertise to improve tactical health care; (4) provides training and technical support to medical support personnel; and (5) provides a modeling capability to optimize the size and minimize the footprint of required medical support forces.

Joint Modular Lighterage System (JMLS) (Users Sponsor: N/A), DTO F.20

Purpose: To demonstrate a service-interoperable prototype causeway lighterage system to safely assemble and operate (in a loaded condition) through sea state 3 (SS3). This capability will permit the rapid planning, deployment, and execution of more responsive and efficient logistics support of amphibious operations in SS3 conditions. The JMLS ACTD exploits emerging technologies to provide a fully capable SS3 causeway system. By leveraging government and industry research and development, recent technological advances now permit the integration of high-sea-state connector systems, composite materials and fabrication methods, and new system employment capabilities. In January 1998, the process began to issue requests for proposals to industry and award contracts for integrated design and development of the JMLS causeway system. In FY99, testing and evaluation will be conducted at the component and system levels, and fleet- and joint-level exercises will be conducted to demonstrate successful SS3 Logistics Over the Shore (LOTS) and Joint Logistics Over the Shore (JLOTS) causeway system assembly and operations.

Joint Theater Logistics (JTL) (User Sponsors: USACOM/USPACOM), DTO F.28

Purpose: To initiate the migration from federated combat support Joint Decision Support Tools (JDSTs) and CINC, service, and agency applications to integrated information displays that make logistics, operations, intelligence, and other functional areas interoperable in support of the joint warfighter. JTL will enhance warfighter decisionmaking through an automated capability to incorporate timely and accurate force and sustainment information into the command and control process. It will provide collaborative J3/J4 interoperable Global Combat Support System (GCSS) software to the JTF commander through tailorable presentations fed by shared data. This will (1) meet the critical need for enhanced real-time focused logistics support of the warfighter; (2) support integration of the GCSS and the Global Command and Control System (GCCS) to enable a seamless interoperable network of information and decision support capability among all combat service support and operations functions; and (3) improve the commander's confidence in the logistics pipeline during crisis action planning and execution to improve combat support efficiency and responsiveness to operational changes. This will enable logistics to be interoperable with other functional areas to provide operational commanders increased combat power through greater control of the logistics pipeline. JTL will produce a complete, end-to-end advanced logistics system for the planning, execution, monitoring, and rapid replanning of a major force deployment from the continental United States to in-theater final destination and return to CONUS origins.

Line-of-Sight Antitank System (LOSAT) (User Sponsor: U.S. Central Command), DTO M.04

Purpose: To meet the requirements of the airborne forces, the LOSAT weapon system, with the overwhelming lethality of the kinetic energy missile, will be integrated into an expanded-capacity High-Mobility Multipurpose Wheeled Vehicle (HMMWV) to meet C-130 airdrop requirements and UH-60L (Blackhawk) helicopter slingload weight constraints. In addition to undergoing repackaging to make the system compatible with the HMMWV, the system design must meet Army safety and man-rating requirements before being released for the user evaluations. The user will experiment with the system in three major Dismounted Battlespace Battle Lab Warfighting Experiments, beginning in FY 02, to demonstrate the deployability, lethality, and survivability of the system, and its impact on the early entry forces. After successful demonstrations, the end result of the ACTD will be an interim capability in FY 03, for the XVIII Airborne Corps, of a LOSAT company composed of 12 fire units and the associated basic load of kinetic energy missiles.

Link-16 (User Sponsor: U.S. Atlantic Command), DTO C.07

Purpose: To demonstrate a joint integrated capability to pass real-time tactical information seamlessly between L-16 and Joint Variable Message Format (JVMF) networks. Link-16 will improve situational awareness in the battlespace and reduce task loads, while providing a conduit for target identification, thereby reducing fratricide. The overall intent is to demonstrate the efficacy of emerging capabilities to provide significant increases in timely delivery of crucial battlefield information. Specifically, this ACTD will demonstrate J-series family tactical datalink (TDL) digitized battlespace interoperability by developing transportable software to exchange tactical information to and from L-16 and JVMF networks. System software has been developed to exchange tactical information between the networks and their physical devices, as well as the specific message sets required for this exchange. This capability was demonstrated during two exercises at Ft. Huachuca, AZ, where the time to pass message data was reduced from 10 minutes (manual) to 20 ms. Military utility assessment of this capability is on track for FY99.

Migration Defense Intelligence Threat Data System (MDITDS) (User Sponsor: U.S. European Command), DTO L.13

Purpose: To supply the information infrastructure required for day-to-day situation awareness intelligence in support of Combating Terrorism (CT) and Force Protection (FP) operations. The ACTD will upgrade MDITDS software with advanced applications to maintain on line a "virtual" centralized database of all antiterrorism security assessments and inspections of DoD facilities, as well as provide analysis on CT policy and the threat worldwide to DoD interests. MDITDS will provide the data repository and the vehicles to access, evaluate, and disseminate this information. The MDITDS is a 5-year program running from FY 98 through FY02.

Military Operations in Urbanized Terrain (MOUT) (User Sponsors: U.S. Special Operations Command), DTO E.02

Purpose: Urban centers have increasingly become the sites of conflict throughout the world and will remain so as we move into the 21st century. The nature and complexity of the urban environment mandates manpower-intensive operations due to line-of-sight restrictions, inherent fortifications, limited intelligence, densely compacted areas, the presence of noncombatants, and associated restrictive rules of engagement. Due to the difficulty in controlling operations, MOUT operations have much higher potential for casualties and collateral damage than operations in other environments. The MOUT sites at Fort Benning and Camp Lejeune are in the process of being instrumented to include position/location in x-y-z coordinates; weapons effects adjudication; communications tagging; and video playback and linkage to the control facilities. Fort Benning instrumentation was in place for experimentation beginning in the second quarter of FY98; Camp Lejeune instrumentation was in place for experimentation beginning in the fourth quarter of FY98. Three Marine and five Army experiments have been completed. MOUT has been approved for the Army's Warfighter Rapid Acquisition Program (WRAP).

Miniature Air-Launched Decoy (MALD) Program (User Sponsor: Air Combat Command), DTO H.04

Purpose: To develop and demonstrate a small, very inexpensive air-launched decoy system for the suppression of enemy air defense (SEAD) mission. MALD will greatly enhance the survivability of friendly aircraft and aid in establishing air superiority by stimulating, diluting, and confusing enemy integrated air defense systems. The MALD ACTD is a follow-on to the DARPA Small Engine Advanced Program (SENGAP), which successfully developed an extremely small turbojet engine. The 30-month ACTD contract was awarded to Teledyne Ryan Aeronautical Corporation on 5 November 1996. Air vehicle fabrication, assembly, ground integration, and testing are currently ongoing. Flight testing is underway, with operational demonstrations to follow, where operational users will evaluate military utility in preparation for the user assessment.

Navigation Warfare (User Sponsor: U.S. Atlantic Command), DTO A.16

Purpose: To validate the technologies and concept of operations for implementing protection of our use of satellite navigation systems and prevention of an adversary's use of satellite navigation systems. This capability will mitigate hostile use of satellite navigation by unfriendly forces on the battlefield while ensuring unimpeded use of the Global Positioning System for U.S. and allied forces.

Personnel Recovery (PR) Mission Software (PRMS) (User Sponsor: USPACOM), DTO A.30

Purpose: To improve the command and control functions associated with personal recovery (PR) operations. PRMS will increase the probability of safe recoveries, increase the speed of the recovery process, and lower the cost of recovery. This will be accomplished by moving from a paper-based PR response to an integrated GCCS software suite with point-and-click mission interface. The Joint Search and Rescue Centers will be provided with PR mission software and hardware and will have the capability to maintain PR-specific data and utilities. Improved personnel recovery mission planning will result in a higher probability of recovery, fewer resources required for recovery missions, and greater safety for the recovery and recovered personnel.

Precision Targeting Identification (PTI) (User Sponsor: Joint Interagency Task Force East), DTO C.05

Purpose: To demonstrate the military worth of an advanced, cost-effective surveillance and target identification technology in an operational environment. The ACTD will employ an advanced, third-generation infrared sensor and laser radar (LADAR) system. The PTI system will provide a day/night target detection, classification, and dissemination capability at standoff ranges that cannot be achieved with conventional detection and monitoring systems. Engineering and testing of the LADAR and third-generation forward-looking infrared system, and integration on the P-3 Orion,

continue. The initial operational capability of the PTI will set the stage for the rapid transition into engineering and manufacturing development and acquisition for surveillance and tactical platforms.

Rapid Terrain Visualization (RTV) (User Sponsor: U.S. Atlantic Command), DTO A.06

Purpose: To demonstrate the technologies and infrastructure necessary to rapidly provide digital topographic data (DTD). Future conflicts will likely involve U.S. forces in regions lacking topographic data, where indigenous forces will have the most comprehensive and accurate knowledge of the terrain. This terrain knowledge will greatly benefit the enemy and allow him to better control the battlefield to suit his tactical objectives. U.S. forces require timely and comprehensive DTD to counter this disparity. In FY97, a baseline testbed was established at Ft. Bragg, and selected capabilities were integrated and tested as part of warfighter exercises. This testbed established a fundamental terrain visualization infrastructure, facilitated user training, and provided feedback on requirements. Twelve warfighter exercises have been supported to date using this testbed. RTV Topographic Generation software is in operational use at the XVIII ABN Corps and III Corps.

Semiautomated Imagery Processing (User Sponsor: U.S. Atlantic Command), DTO A.09

Purpose: To significantly improve an image analyst's ability to provide accurate, timely situation awareness to the warfighter. This system will allow analysts to exploit the output of an increasing quantity of image collection assets. A laboratory demonstration of the integrated system capability was held at Lincoln Laboratory. Initial field tests were conducted in March 1997 with the 18th Airborne Corps using the ETRAC ground station as a radar interface. System deployments are scheduled with the Army and Air Force in FY99.

Small-Unit Logistics (SUL) (User Sponsor: USPACOM), DTO F.29

Purpose: To develop a Windows client/server-based, tactical-level logistics command and coordination system to interface and fuse data and information from DoD and service legacy logistics systems to achieve near-real-time situational awareness, a common tactical-level logistics picture, and access to logistics planning, decision support, and course-of-action analysis tools. The SUL system will be scaleable, will be accessible via a Web relational database environment, and will comply with defense information infrastructure common operating environment architecture standards. It will (1) capitalize on existing government and commercial off-the-shelf hardware/software and proven commercial practices; (2) use point-and-click technologies with appropriate interface, query, and mediation programming; and (3) operate over existing tactical, operational, and strategic communications networks. This ACTD will provide tactical (small-unit) logisticians and commanders an interoperable combat service support command and coordination system that enables them to support and sustain operating forces quicker and more effectively with a reduced forward-based logistical footprint. Use of state-of-the-art commercial applications and logistics computations, collaboration, and decision support tools will also facilitate the functional integration of legacy DoD, joint, and service logistics systems.

Space-Based Space Surveillance Operations (SBSSO) (User Sponsor: U.S. Space Command), DTO A.28

Purpose: To demonstrate end-to-end space-based space surveillance; develop the associated tasking, scheduling, and formatting procedures; and determine the overall operational utility of space-based sensors compared with ground-based sensors. The SBSSO ACTD uses the space-based visible (SBV) sensor on the BMDO Midcourse Space Experiment (MSX) program spacecraft. SBSSO will provide a space-based space surveillance capability for the first time. Scheduled for 36 months (FY98-FY00), the ACTD effects the transition of MSX/SBV operations to contributing sensor status for U.S. Space Command's space control operations in FY98. The SBSSO ACTD serves as a testbed for future space-based space surveillance operations requirements in the Space-Based Infrared System (SBIRS) low-post demonstration/validation and objective system spacecraft. The system has located 59 lost space objects during its first year.

Tactical High-Energy Laser (THEL) (User Sponsor: USAADASCH), DT0 ____

Purpose: To develop a THEL demonstrator with limited operational capability, using mature technologies. The emphasis of the THEL ACTD is the development of fire control and command, control, communication, and intelligence (FC/C3I) techniques to take advantage of the laser's rapid response capability for close-in engagements with short time lines. The three primary subsystems of the THEL demonstrator are (1) the laser subsystem (LS), (2) the pointer tracker subsystem (PTS), and (3) command, control, communications, and intelligence subsystem (C3I). The LS is a deuterium fluoride chemical laser that consists of the fluid supply, the gain generator, controller, and pressure recovery assemblies. The PTS is made up of the beam path from the laser to the outside world, which includes an internal optical train and a

large gimbaled telescope consisting of a primary and secondary mirror fed by a coude' path. The C3I subsystem consists of a remote acquisition radar and a trailer, which houses computer equipment and a commander and gunner's console. Field tests planned by the U.S. Army Air Defense Artillery School and the Israeli Air Force will result in reduced developmental risk and significant cost savings for possible future use by the U.S. Army.

Theater Air and Missile Defense Interoperability (TAMDI) (User Sponsor: USACOM), DTO M.10

Purpose: To improve the integrated air picture and extend the effective engagement zones of our theater air and missile defense (TAMD) weapon systems, ultimately expanding the warfighter's battlespace. This ACTD is conducted in three phases: (1) a real-time data exchange between the Patriot and Aegis weapon systems via the U.S. Navy Cooperative Engagement Capability (CEC); (2) an engage-on-remote (EOR) of a low-altitude surrogate cruise missile using those same systems; and (3) a Theater High-Altitude Air Defense (THAAD)/CEC data collection, analysis, and integration investigation. TAMDI provides data to extend the Army evaluation of warfighting capabilities and demonstrates Patriot/THAAD contributions to a single integrated air picture (SIAP). It leaves behind hardware, software, and facilities to evaluate a potential joint composite tracking network (JCTN) architecture and CEC hardware-in-the-loop family-of-systems interoperability that could lead to future fielded operational capabilities. The TAMDI ACTD will increase the TAMD defended area, improve the Army and Navy SIAP, and increase our capability to conduct contingency operations. It will address a number of warfighter needs, including SIAP/common operational picture (COP), greater tactical datalink capability, minimal data latency, combat identification (CID), elimination of multiple tracks and incorrect CID, faster warnings, precise cueing, and beyond-line-of-sight engagement capability. TAMDI will also improve robustness against countermeasures, sensor losses, and defense suppression attack when overlapping coverage exists; enhance coordination among shooters and associated command and control nodes; enhance combat identification of detected airborne objects; and create opportunities to employ integrated fire-control concepts such as EOR and forward pass.

Theater Precision Strike Operations (TPSO) (User Sponsor: U.S. Forces Korea), DTO B.25

Purpose: To provide the CINC with a significantly improved capability to plan and direct theater counterfire and precision strike operations through the real-time synchronization of U.S./coalition assets. TPSO addresses this urgent need by applying mature technologies to enhance the joint and combined C4I and strike planning processes at the theater level. Attaining this objective will permit the commander to see the battle, focus warfighting assets to shape the battlefield, and influence the outcome to achieve the objectives. Enabling objectives of the TPSO ACTD are (1) to enhance the C4I strike planning process, (2) to enhance joint and combined interoperability, (3) to enhance transition to reinforcement, and (4) to provide a venue to demonstrate integration of externally funded weapon systems and joint tactics, techniques, and procedures (JTTPs). A series of three annual demonstrations will begin in FY99 and will be completed by FY01. The final 2 years (2002 to 2003) will focus on support and sustainment of the interim capability.

Unattended Ground Sensors (UGS) (User Sponsors: U.S. Central Command, U.S. Southern Command), DTO A.24

Purpose: To develop and demonstrate two families of leave-behind ground sensors that are hand emplaced or air delivered and support the mission requirements for reporting either movement of time-critical targets or accurate and local weather conditions. The UGS ACTD addresses the complete end-to-end operation of these systems, to include planning tools for emplacement, hand and air delivery methods, sensing and data processing, reporting via satellite communications, and data dissemination through existing networks to decision-makers. UGS will greatly enhance the capability to monitor the battlespace on a continuous basis, tip off other collection systems, and make timely decisions based on sensor reports. The UGS ACTD utilizes two distinct sensor programs: (1) the Central Measurement and Signature Intelligence (MASINT) Office Unattended MASINT Sensor (UMS) program and (2) the U.S. Special Operations Command (USSOCOM) Remote Miniature Weather Station (RMWS) program. Sandia National Laboratories developed and tested an acoustic/seismic prototype sensor capable of identifying and reporting time-critical targets (TCTs). Hand- and air-delivered sensors have been demonstrated during numerous exercises in FY98 and FY99. Testing will continue with a full system demonstration planned for late FY99.

COMPLETED ACTDS

Advanced Joint Planning (User Sponsor: U.S. Atlantic Command)

Purpose: To enhance joint operational planning capabilities by leveraging, refining, and integrating emerging technologies. This ACTD, including the Joint Readiness Extension, was completed in the first quarter of FY98, after developing and demonstrating a capability to integrate, organize, analyze, and present joint readiness data for all CONUS-based forces. The Joint Planning and Execution Tool (JPET) Kit and the Joint Readiness Automated Management System (JRAMS) provide a comprehensive set of distributed planning tools, for mission planning, course-of-action development and evaluation, and logistics and transportation assessment. The Map-Based Planner software application was deemed in need of additional development before it could provide adequate military utility. Some of the software tools from this ACTD have been operational at USACOM for almost 2 years and have resulted in a reduction of planning times between the CINC and his components from a period of approximately 7 days to several hours. The JPET, JRAMS, and Automated Joint Monthly Readiness Review (AJMRR) tools have been incorporated into the Global Command and Control System and the Readiness Assessment System (RAS).

Combat Identification (User Sponsor: U.S. Atlantic Command)

Purpose: To demonstrate system alternatives that can enhance the capability of our combat forces to positively identify friendly and hostile platforms during air-to-ground and ground-to-ground operations in order to preclude fratricide due to misidentification and to maximize combat effectiveness. The Battlefield Combat Identification System (BCIS) was installed on the vehicles of the 4th Infantry Division to provide training during the Task Force XXI exercise. The CID ACTD provided a mechanism to improve the most deficient combat identification mission areas: air-to-surface and surface-to-surface combat identification of hostile forces. CID's dual approach of improving situational awareness and positive, immediate target identification provided synergistic solutions for increasing combat effectiveness while minimizing fratricide on future battlefields. Concurrently, the CID ACTD enabled refinement of joint/service CID tactics, techniques, and procedures. Success of the Army's BCIS resulted in an FY99 LRIP contract award for 2,620 units to be procured in the FY99-05 timeframe, with fielding beginning in FY01. The Situational Awareness Data Link (SADL) is being fielded by the Air National Guard for close air support missions.

Combat Vehicle Survivability (User Sponsor: III Corps)

Purpose: To demonstrate low-cost Advanced Survivability Technology (AST) on an Abrams tank that will significantly increase the survivability of combat vehicles on the battlefield. This ACTD demonstrated reduced vulnerability of a platoon-size element equipped with AST. Its residual equipment will be used by the 4th Infantry Division, and its exhaust treatment technology will be integrated into the Abrams System Enhancement Program.

Consequence Management (User Sponsor: Marine Corps)

Purpose: To demonstrate the capability to detect and model, inside a building, a biological warfare (BW) agent simulant for consequence management. This ACTD fully satisfied its objective of demonstrating the U.S. military's capability to perform in a supporting role for consequence management of the terrorist/paramilitary use of biological weapons or agents. The ACTD ran for less than 12 months with two major demonstrations in 7 months. Exemplar results of the final demonstration in December 1997 and subsequent activities follow. Fifteen biological agent collection, detection, and identification technologies were evaluated with a subset meeting near-term assay timeline goals. These sensors allowed units to perform onsite analysis and identification of suspected BW agents in less than 1 hour, unlike other methods that require specialized laboratories. Integrated, dedicated chamber tests and a vignette day were used to establish definitive baseline technical performance levels for the technologies while also providing realistic training for the U.S. Army Technical Escort Unit (TEU) and the U.S. Marine Corps Chemical/Biological Incident Response Force (CBIRF). The sensors are one of several residual technologies that were favorably assessed and are being procured by the participating units. Another residual is coming from the evaluation of several modeling tools that simulate the complex air flow in multistory buildings. These indoor hazard prediction models assist first responders in determining source and high-contamination areas. Open-air hazard prediction models were also evaluated. The combination of these two modeling residuals allows users to train for a much wider range of scenarios and environments than they could before the ACTD.

Counter-Sniper (User Sponsor: Dismounted Battlespace Battle Laboratory)

Purpose: To rapidly provide counter-sniper sensor systems for evaluation by Army, Marine, and Special Forces users; provide training for users who will be prepared to quickly deploy sniper detection technology; and provide feedback to system developers. This ACTD enabled various DoD users the opportunity to evaluate a variety of state-of-the-art sniper detection capabilities. The ACTD achieved the goal of quickly providing an interim counter-sniper capability consisting of sensor systems, tactical procedures, and trained users. In addition to the fieldable prototypes introduced during the ACTD, and based on ACTD results, the Army and DARPA are examining more mobile vehicle-mounted and helmet-mounted counter-sniper detection systems for further development.

Cruise Missile Defense-Phase I (User Sponsor: U.S. Pacific Command)

Purpose: To detect, track, and successfully engage cruise missiles at ranges beyond the radar horizon of ship- and land-based air defense units, and to assess joint doctrine and concepts of air defense operations. This ACTD demonstrated the first-ever beyond-radar-horizon engagements of cruise missile targets. The Phase I demonstration was completed in January 1996 with four live intercepts of targets simulating land attack cruise missiles by ship-launched air defense missiles directed by a surrogate airborne radar located on the top of a nearby mountain. This concept of an elevated sensor has been a central element of cruise missile defense architectures since that time, and is continuing development by the Ballistic Missile Defense Organization and Joint Theater Air Missile Defense Organization.

Joint Countermine (JCM) (User Sponsor: U.S. Atlantic Command)

Purpose: To demonstrate the capability to conduct effective, seamless amphibious mine countermeasure operations from sea to land; to provide simulation tools for Joint Countermine operations; and to define a Joint Countermine command, control, communications, and intelligence (C3I) architecture. The initial demonstration occurred in summer 1997 under U.S. Atlantic Command sponsorship. JCM integrated 13 novel systems for both detecting and clearing mines and minefields. These systems were integrated with operational countermine systems under an umbrella including a JCM C4ISR architecture, JCM common operational picture software, and a JCM operational simulation system. Two major demonstrations were conducted in conjunction with JTF exercises in FY97 and FY98. Four of the original systems have completed transition to acquisition phases. The Near-Term Mine Reconnaissance System (NMRS) and Airborne Standoff Mine Detection System (ASTAMIDS) have entered LRIP. The Coastal Battlefield Reconnaissance and Analysis (COBRA) system and Explosive Neutralization (EN-ATD) technology have entered the EMD phase.

KE Boost-Phase Intercept (Phase I) (User Sponsors: Air Combat Command, and Naval Air Warfare Center (N-88), Deputy Chief of Naval Operations for Resources & Warfare Requirements)

Purpose: To assess the operational utility, mission effectiveness, and affordability of air-launched kinetic energy (KE), boost-phase intercept (BPI) systems. The KE BPI ACTD proposal was partitioned into two ACTDs at the recommendation of the Vice Chairman of the Joint Chiefs of Staff. The objective was to intercept ballistic missiles before they could deploy submunitions or other countermeasures. The 12-month, $40 million KE BPI Phase I ACTD was structured as a joint Air Force/Navy effort to develop the concept of operations, establish a force-level simulation of system performance, conduct pilot-in-the-loop simulations to measure pilot responses to threat detection, and assess performance as a function of the number of aircraft equipped with BPI capability. The assessment indicated that the BPI system would be feasible and would not place excessive demands on the pilot. However, the number of aircraft required to provide an effective defense capability was excessive. A decision was made not to proceed with the Phase II ACTD, a $400 million prototype system demonstration.

Low-Life-Cycle Cost, Medium-Lift Helicopter (User Sponsors: U.S. Navy, Military Sealift Command)

Purpose: To evaluate the military utility of employing a commercial-off-the-shelf helicopter to perform the Military Sealift Command fleet vertical lift support mission. This ACTD, originally planned for FY96, was executed during August-October 1995 with a very successful demonstration of leased commercial helicopters and crews on Military Sealift Command ships. As a result of the demonstration, the Navy has concluded that leasing helicopters may be a viable alternative for vertical replenishment. The Navy completed a 6-month follow-on demonstration in the Indian and Atlantic Oceans and is considering privatization options for the rest of the Military Sealift Command fleet.

Medium-Altitude Endurance Unmanned Aerial Vehicle (MAE UAV) (Predator) (User sponsor: U.S. Atlantic Command)

Purpose: To provide a rapidly deployable, medium-altitude reconnaissance and surveillance capability. Predator progressed from a concept to a three-system operational capability in less than 30 months. The Predator ACTD was initiated in 1993, and the first flight occurred in 1994. Predator first deployed to Gjader Field, Albania, from June to October 1995 in support of Operation Provide Promise, flying 77 operational missions and logging 753 hours. From March 1996 through September 1998, it has flown 625 operational flights totaling 4,644 hours in support of Implementation Force (IFOR)/Security Force (SFOR) tasking in the Bosnian theater. Overall, Predator has logged (through September 1998) 2,210 flights totaling 9,834 hours. Predator was also deployed to Southwest Asian operations in February 1999. Operational lead and program acquisition have undergone transition to the Air Force. Twelve systems, each containing four air vehicles, are being procured.

Precision/Rapid Counter-Multiple Rocket Launcher (P/RCMRL) (User Sponsor: U.S. Forces Korea)

Purpose: To develop and demonstrate an adverse-weather, day/night, end-to-end, sensor-to-shooter, precision deep-strike capability against North Korean long-range artillery. The P/RCMRL ACTD addressed the North Korean multiple rocket launcher threat along the DMZ in Korea. In 24 months, the ACTD demonstrated and fielded significant improvements in capability related to rocket launch detection, command and control, and counterfire necessary to effectively neutralize the threat. By reducing sensor-to-shooter timelines by a factor of three, increasing counterfire accuracy, and providing orchestration of air and naval forces, P/RCMRL significantly reduces the threat to Seoul and to deployed U.S. and coalition forces. The ACTD contributed to an overall understanding of short sensor-to-shooter timeline concepts of operation in all Army areas of responsibility. The systems developed and deployed in P/RCMRL are standing watch with the 2nd Infantry Division in Korea. The technology is being transitioned into Army baseline systems.

Precision Signals Intelligence Targeting System (PSTS) (User Sponsor: U.S. Forces Korea)

Purpose: To develop and demonstrate a near-real-time, precision targeting, sensor-to-shooter capability using existing national and tactical assets. PSTS developed advanced cooperative precision targeting algorithms, processing enhancements, site interfaces necessary for cooperative operation, and a concept of operations for asset cooperative utilization and minimal operational impact. This ACTD was executed as a series of demonstrations that incrementally improve the overall capability in terms of complexity of emitters that can be targeted, degree of engineer versus operator involvement, and tactical utility. A demonstration in Korea was completed in September 1998. The SIGINT data were collected by assets in Korea and by national means, processed in CONUS, and transmitted to warfighters in Korea over existing SIGINT dissemination communication links. PSTS systems have begun limited operational use with U.S. Forces in Korea.

Rapid Force Projection Initiative (RFPI) (User Sponsor: XVIII Airborne Corps)

Purpose: To demonstrate sensor-to-standoff killer capability for light early-entry forces. The RFPI ACTD demonstrated a hunter/standoff killer (HSOK) concept for extending the early-entry brigade deep and close fights. The HSOK concept uses long-range precision sensors, weapon systems, munitions, and digital C2 systems to defeat an enemy armored force and its associated indirect-fire systems before it can decisively engage friendly forces. With the HSOK concept, the fight is essentially completed, with the fewest possible friendly losses, beyond enemy direct-fire weapon ranges. A series of partial demonstrations led up to a full-scale, free-play demonstration in the fourth quarter of FY98. This final demonstration occurred at Fort Benning, Georgia, and included both live and virtual forces. The ACTD was completed in FY98. Two of its systems, the High-Mobility Artillery Rocket System (HIMARS) and the 155-mm Automated Howitzer with Digital Fire Control System, have entered the EMD phase. The Hunter Sensor Suite has been operationally fielded.

Synthetic Theater of War (STOW) (User Sponsor: U.S. Atlantic Command)

Purpose: To provide an operational demonstration of advanced distributed simulation technologies that will directly support joint training and mission rehearsal. STOW demonstrated and evaluated the capabilities of advanced distributed simulation technology to improve joint training and mission rehearsal. Specific objectives achieved in Unified Endeavor 98-1, a Joint Task Force-level exercise in October 1997, included a demonstration of enhanced simulation fidelity based on combat resolution at the weapon system level; realistic simulation of command and control behavior; networking and information flow technology; and the capability to provide knowledge-based autonomous forces in simulation with man-in-the-loop participation wherever desired. The system supported up to 8,000

entities illustrating a new milestone in simulation scalability. The combination of STOW's successes with C4I, environmental, knowledge-based force integration, and the common data infrastructure demonstrates a significant potential for using simulation with lower cost and greater efficiency in the training, mission rehearsal, and analysis required by Joint Vision 2010. STOW is providing many of the baseline capabilities for DoD's next-generation Joint Simulation System (JSIMS), and STOW technologies, tools, and applications are being transitioned to JSIMS, JWARS, and the services (e.g., Army STOW-A, Navy BFTT, Air Force Distributed Mission Training, USMC at the schoolhouse at Quantico).

Tactical Unmanned Aerial Vehicle (TUAV) (User Sponsors: U.S. Army Training and Doctrine Command, U.S. Marine Corps Deputy Chief of Staff (Aviation), and Commander, Naval Air Forces, Atlantic Fleet), DTO A.14

Purpose: To demonstrate a low-cost TUAV system for use by brigade-level commanders. This ACTD has completed its final demonstration phase, and future plans for the TUAV are currently under consideration by the user services.

NEW ACTDS

CINC 21

Purpose: Improves the Commander in Chief and the Joint Force operational commander's ability to conduct crisis action planning.

Coalition Aerial Surveillance and Reconnaissance

Purpose: Develops interoperability protocols and concept of operations to enhance joint strike capability of U.S. an allied forces.

Communications/Navigation Outage Forecasting System

Purpose: Forecasts ionospheric conditions to limit effect of satellite transmissions disruption/outage.

Computerized Operational Measurements and Signatures Intelligence (MASINT) Weather

Purpose: Supports precision-guided munitions, strike warfare, Fleet defense, air refueling, and reconnaissance through near weather data.

Content Based Information Security

Purpose: Develops a proof of concept security environment supporting joint and coalition forces to evolve security policy; tactics, techniques, and procedures; and technical requirements.

Ground-to-Air Passive Surveillance

Purpose: Uses commercial transmission signals to detect, track, and identify platforms.

Joint Intelligence, Surveillance and Reconnaissance

Purpose: Enables commanders to simultaneously access all available tactical sensor data to enhance battlespace picture.

Multiple Link Antenna System

Purpose: develops wide-band information system to facilitate multiple lines of wireless communications to a single tactical platform.

Quick Bolt

Purpose: Integrates multiple guidance technologies into the High-Speed Anti-Radiation Missile (HARM) that will aid in the destruction of enemy radar threat systems.

Restoration of Operations

Purpose: Restores operations at a port, airfield, or logistical node that has been attacked by chemical or biological weapons.

Tri-Band Antenna Signal Combiner

Purpose: Uses multiple smaller, lighter, and cheaper antennas to provide the performance of much larger antennas for special operations forces.

FY01 ACTDS

Active Network Intrusion Defense (ANID)

A distributed system architecture enabling real-time detection and response to network intrusions, including automatically disabling routes used by hackers. ANID will demonstrate a capability to respond in real time to network intrusions by making changes to network devices like routers, firewalls, intrusion sensors, etc. For example, ANID will automatically disable routes used by a hacker. This ACTD will use a highly distributed architecture with intrusion detection capabilities installed at very low levels, and a collection of smart agents to correlate sensor information and distribute summary level alert information to neighboring nodes. Policy issues with the inherent capability to strike back will also be investigated. U.S. Space Command is the operational sponsor. Planned completion will be in Fiscal Year 2005.

Adaptive Battlespace Awareness (ABA)

An integrated system improving information aggregation supporting the CINC and Joint Task Force common operating picture and situational awareness. ABA will demonstrate the potential of the Global Command and Control System (GCCS) Common Operating Picture (COP) to provide relevant information to support Commander-in-Chief (CINC), Joint Task Force (JTF), and Component -level situational awareness, decision making, execution, and planning for future military operations. It will accomplish this by:

(1) providing user customized templates and filters;

(2) providing links to relevant amplifying information (such as targeting, intelligence products, status, etc.);

(3) introducing new force-level track types; and,

(4) facilitating information aggregation at the CINC and JTF levels. U.S. European Command is the operational sponsor. Planned completion will be in Fiscal Year 2005.

Advanced Tactical Laser (ATL)

Includes a laser, optics and control systems enabling existing fire control systems on fixed and rotary wing aircraft to precisely direct laser fire on targets from 15 kilometers. ATL will integrate a moderate-power laser, uncooled optics, and existing fire-control systems onboard a V-22, H-53, C-130, or H-47 aircraft. This capability will focus on military or law enforcement operations in an urban or suburban environment. The precision of the laser mitigates potential collateral damage, while delivering a non-lethal or lethal force up to 15 kilometers away. U.S. Special Operations Command is the operational sponsor. Planned completion will be in Fiscal Year 2005.

Advanced Technology Ordnance Surveillance (ATOS)

A system of miniature electronic tags and sensors to remotely perform ordnance inventory surveillance and monitoring of storage environmental conditions. ATOS will demonstrate a small hybrid integrated circuit chip incorporating the most recent industry advances in miniaturized electronics technology. The successful fielding of such a system will allow the user to remotely maintain an inventory, while an integrated sensor array will provide continuous tailored environmental information, such as temperature, humidity, pressure, etc. Finally, the user will be able to achieve real-time location, quantity, and condition knowledge of the

ordnance stockpile. U.S. European Command is the operational sponsor. Planned completion will be in Fiscal Year 2003.

Coalition Combat Identification (CCID)

An integrated system and operational concepts utilizing situational awareness and target identification technologies to improve interoperability of coalition air-to-surface and surface-to-surface operations. CCID will demonstrate and transition hardware and software providing situational awareness, 'blue force' tracking interoperability systems, target identification systems, modeling and simulation, joint training, requirements and architecture definition, CONOPS, doctrine and techniques, tactics and procedures for a new combat identification capability across joint, allied and coalition operations. U.S. Joint Forces Command is the operational sponsor. Planned completion will be in Fiscal Year 2006.

Coalition Theater Logistics (CTL)

A system of logistic information technologies and combat support tools, enhancing command and control of combat support for coalition task forces. This ACTD integrates logistics information and combat support tools among coalition forces. It provides enhanced command and control of combat support for the Coalition Task Force through real-time coalition logistics information technologies and decision support tools. Technologies demonstrated will include secure coalition network and standard information tags, information collection, storage and transfer, intelligent data retrieval agents, and web-based collaboration technologies. U.S. Pacific Command is the operational sponsor and Australia is the principal coalition partner. Planned completion will be in Fiscal Year 2006.

Coastal Area Protection System (CAPS)

A system to improve surveillance, identification and exclusion of threats to ships in ports and harbors. CAPS will demonstrate the feasibility of deploying technologies in the coastal/littoral areas for force protection. The system demonstrations will consist of technologies to support the surveillance, identification and exclusion of threats in the vicinity of ports and harbors. The goal of the ACTD is to provide a rapid capability to the US Navy, US Marine Corps, and US Army prepositioned ships, as well as a fly-away capability for contingency operations. U.S. Central Command is the operational sponsor. Planned completion will be in Fiscal Year 2001.

Hunter Standoff Killer Team (HSKT)

A command and control system to increase Joint Maneuver Commander's situational awareness, while decreasing decision and reaction timelines. HSKT will integrate, demonstrate and transition for the Joint Task Force Commander: (1) cognitive decision aiding (CDA) technologies into F/A 18s, AH-64D Longbows, Blackhawk A2C2S, UAVs, ground tactical operations centers, and surface ships; (2) seamless tactical command and control of airborne manned and unmanned sensors / shooters; and, (3) CONOPS and techniques, tactics and procedures. U.S. Pacific Command is the operational sponsor. Planned completion will be in Fiscal Year 2006.

Joint Area Clearance (JAC)

De-mining equipment and information systems to improve de-mining and explosive ordnance disposal for area clearance of airfields, fuel/ammunition distribution points, hospital sites, main supply routes, and other rear area activities. This ACTD will demonstrate de-mining and explosive ordnance disposal equipment for area clearance of airfields, fuel/ammunition distribution points, hospital sites, main supply routes, and other rear area activities. Additionally, it will demonstrate tools that enhance situational awareness of clearance progress. U.S. Joint Forces Command is the operational sponsor. Planned completion will be in Fiscal Year 2004.

Loitering Electronic Warfare Killer (LEWK)

A recoverable unmanned aerial vehicle providing electronic warfare jamming at a low cost and capable of being launched from air, sea or ground assets. LEWK will demonstrate a $40K Unmanned Combat Aerial Vehicle that weighs 650 pounds, carries a combined 200-pound lethal and non-lethal payload, and has eight hours endurance. The vehicle transforms from a general-purpose bomb into an aerobatic air vehicle by using unique inflatable airfoils, integrates demonstrated commercial and military technologies, and is commanded through data links and on-board sensors. The system can be air, ground, or sea launched. Recovery is via parachute. U.S. European Command is the operational sponsor. Planned completion will be in Fiscal Year 2006.

Network-Centric Collaborative Targeting (NCCT)

A network of existing operational intelligence, surveillance and reconnaissance sensors to improve detection, identification and location of time critical targets. This ACTD networks operational intelligence, surveillance and reconnaissance (ISR) sensors (Rivet Joint, Guardrail, JSTARS, AWACS, Global Hawk, Predator, U2, EP3E, Nimrod, ASTOR) to significantly improve capability to detect, identify and locate time critical targets within their cycle times. These sensors have different, but complementary, and synergistic capabilities. Front-end networked collaborative processing of their data can greatly reduce location error and timelines. U.S. Central Command is the operational sponsor. Planned completion will be in Fiscal Year 2005.

Personnel Recovery Extraction Survivability Aided by Smart Sensors (PRESS)

An integrated system of devices and information tools to improve overall personnel recovery process, evader extraction platforms and approaches for U.S. and coalition force combat search and rescue missions. PRESS will demonstrate and transition: (1) real time, automated, precision evader location, tracking and re-supply devices and systems; (2) integration and improvement of extraction platform survivability technologies and options including infrared (IR) countermeasures, cognitive decision aides, wire/obstacle avoidance, millimeter wave imaging and unmanned aerial vehicles (UAV) platforms; (3) integrated, semi-automated, real-time situational awareness and mission management through exploitation of smart sensor web technologies, UAV sensors and mission management software; and, (4) CONOPS and techniques, tactics and procedures. U.S. Joint Forces Command is the operational sponsor. Planned completion will be in Fiscal Year 2006.

Tactical Missile Penetrator (TACM-P)

A missile providing high-availability, all-weather, survivable and short response time destruction of hard and deeply buried targets. TACM-P will demonstrate integration of the Army Tactical Missile System (ATACMS) booster with a Navy reentry vehicle to provide a high-availability, all-weather, survivable and short response time means to destroy hard and deeply-buried targets within the Korean theater. The TACM-P ACTD has been endorsed by three Commanders in Chief (CINCs) to solve urgent needs within their theaters. U.S. Pacific Command is the operational sponsor. Planned completion will be in Fiscal Year 2004.

Theater Integrated Planning System (TIPS)

An automated network to improve crisis planning, target planning turnaround time and CINC interoperability, while reducing the manpower requirement. TIPS will automate and electronically network the current manual processes required to produce decision documents to assist in weapons of mass destruction (WMD) targeting for the theater CINCs. The ACTD will include specialized conventional strike planning. Expected benefits include improved crisis planning, CINC interoperability, reduced turnaround time for target planning, and reduced manpower of the currently labor-intensive process. U.S. Strategic Command is the operational sponsor. Planned completion will be in Fiscal Year 2004.

APPROVED ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS FOR FY 2002

Agile Transportation 2000 (User Sponsors: U.S. Transportation Command)

Purpose: To provide total visibility of all transportation requirements, available lift assets, personnel, and equipment moving to and within the various theaters of operation. Advanced scheduling decision support tools will be used for mode determination and optimization of strategic lift assets resulting in reduced force closure times, smaller theater logistics footprint and approximately $40M annual cost avoidance. The technology involves intelligent agents, collaboration, warehouse/(s)mart data, real-time multi-modal schedulers, and transportation web portal.

Homeland Security (HLS)(User Sponsors: Joint Force Command)

Purpose: To provide a homeland defense decision support center for knowledge capture and knowledge management using high-powered computing and visualization capabilities for emergency response. To demonstrate a new HLS C^2 CONOPS (warning and coordination of escalating security in the US), DOD will partner with Federal, state, local, and civil authorities. Focus will be on key technology/capability areas to ensure the integrity of HLS C^2. The technology involves assured connectivity—a robust infrastructure across NCA; Chief of Staff, Army (C/S/A); Intelligence Community (IC); Guard; Law Enforcement (LE); state/local governments; and first responders. The technology will provide the ability to assess and track threat across multiple domains (nuclear to cyberspace) with high-confidence timely alerts.

Hyperspectral Collection and Analysis System (HYCAS) (User Sponsors: Central Command)

Purpose: To demonstrate a Hyperspectral Collection and Analysis System with sensors integrated into operational platforms and integration of existing tasking, processing, exploitation, and dissemination (TPED) architectures to support an intelligence capability to support counter-concealment, camouflage, concealment, and deception.

Joint Explosive Ordnance Disposal, Knowledge, and Technology Operational Demonstration (JEOD-KTOD) (User Sponsors: Pacific Command)

Purpose: To provide a new integrated capability for joint and coalition EOD forces for unexploded ordnance and improvised explosive ordnance. The objective is to support US/coalition warfighters and provide EOD visibility to JTF CDR, real-time access to government-wide subject-matter experts on EOD, and 24/7 reach-back support. The technology involves diagnostic, render-safe, containment, and personnel-protection tools in addition to automated TTP generation/dissemination for new threat devices. Reach-back capabilities will be developed, allowing real-time conferencing with CONUS-based subject-matter experts.

Pathfinder (User Sponsors: Special Operations Command)

Purpose: To provide urban reconnaissance by integrated capabilities of unattended ground vehicles, air vehicles, and smart sensors in a mobile self-forming network. The integrated system provides enhanced C^3 and situational awareness. The technology involves use of wireless, high-bandwidth voice/data networks and also fused C2 of unmanned air, land, and sea delivery platforms to distribute networked unmanned sensors.

Space-Based MTI (User Sponsors: U.S. Space Command)

Purpose: To demonstrate new, space-based MTI capabilities using existing assets.
(SCI CLASSIFIED)

Active Denial System (User Sponsors: U.S. Joint Force Command)

Purpose: To provide a long-range anti-personnel non-lethal force option for commanders, using a powerful millimeter wave transmitter on stationary and mobile platforms to heat the skin and cause pain the threat personnel. Weapon effectiveness and safety will be validated in field testing. A concept of operations will be developed and the residual will be transitioned to the warfighter for further evaluation. The technology involves a powerful, efficient millimeter wave

source; beam transport, a high-gain antenna; a generator/Li-Ion battery-power system, completed safe demonstrations in the field at range, and an energy beam (repellent) to heat the skin.

Expendable UAV (User Sponsors: Special Operations Command)

Purpose: To provide covert delivery of off-board sensors, tactical surveillance, battle damage assessment and weapons of mass destruction monitoring without risking personnel. The expendable UAV proposal provides this capability with a low-cost autonomous air vehicle operated either powered or as a glider for covert delivery. Deployment will be from air, land, or ship. The technology includes low-cost composite airframe and high-end commercial resistor-capacitor parts and COTS technology.

Contamination Avoidance for Seaports of Debarkation (CASPOD) (User Sponsors: Central Command)

Purpose: To restore operations at seaports of debarkation attacked with chemical or biological weapons and to identify improvement/shortfalls in the current US policy for CASPOD contingencies. The technology provides a fly-away package that fills the gap in chemical and biological defense capability that exists at seaports of debarkation.

Coalition Information Assurance (IA) Common Operational Picture (COP) (User Sponsors: European Command/U.S. Space Command)

Purpose: To provide a detailed information assurance and situational awareness picture of the information system security status of all mission-critical systems on a near- or real-time basis in support of CINC and coalition missions. The objective is to share technology (visualization, intrusion-detection systems, fusion) and data with coalition partners.

SIGINT Processing (User Sponsors: U.S. Space Command)

Purpose: To effectively exploit a new SIGINT processing mode and associated concepts of operation.

(SCI Classified)

Micro Unmanned Air Vehicle (UAV) (User Sponsors: Pacific Command)

Purpose: To provide ground combat small units with situation awareness of enemy activity using a low-cost, disposable, fully autonomous 6- to 9-inch micro unmanned aerial vehicle (UAV) as an organic asset at the platoon level. This capability would demonstrate an affordably expendable, man-portable All-Purpose Lightweight Individual Carrying Equipment (ALICE) pack, autonomous flight, UAV system capable of a perch-and-stare mission. Low-risk developmental COTS technology will be used.

HTD Thermobaric Weapon (User Sponsors: U.S. Pacific Command)

Purpose: To provide an energetic thermobaric penetrator payload to defeat enemy tunnel facilities and weapons with two to three times the lethality of conventional high-explosive payloads.

Laser-Language Translation (User Sponsors: Pacific Command)

Purpose: To fill critical national need, by automating translation of spoken or written foreign languages. The capability would quickly translate captured documents and debrief witnesses support communication in coalition operations. The technology used enhances/integrates COTS and GOTS. Foreign language multi-media triage and translation as well as document exploitation will be used. Two-way voice translation on personal digital assistants (PDA) and multi-lingual data repositories and tools will be used as well.

Krimson Sword (User Sponsors: South/Special Operations Command)

Purpose: To demonstrate effective destruction of selected weapons-of-mass-destruction production facilities.

(CLASSIFIED)